FEATURE STEREO
FW-CHASSIS 16:9

TV

1996

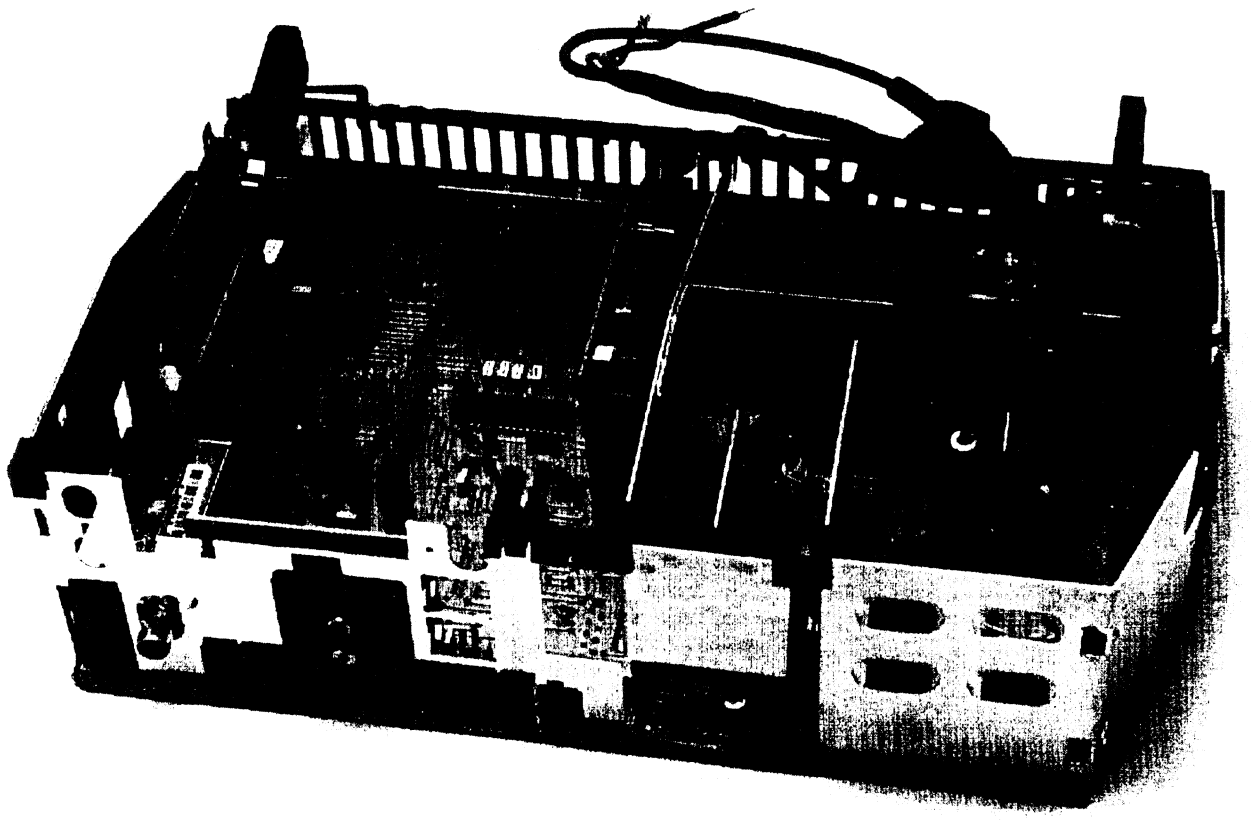
(GB) Service manual
(D) Serviceanleitung
(S) Serviceanvisning
(F) Manuel de service
(I) Manuale di servizio

NOKIA

61971 6197 6197DPL 6197 UK

7282 7282 UK

FW 72 B2



NOKIA
CONNECTING PEOPLE

6611 72 23

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(GB) SAFETY REGULATIONS:

Service and repair work must be performed only in accordance with existing safety regulations!

⚠ Safety components in accordance with existing regulations. These components must be replaced only with original parts.

X-RAY REGULATIONS:

The picture tube type and the maximum permissible high-voltage ensure that the X-ray intensity of the receiver remains far below the permissible value. The high-voltage must not exceed 30 kV.

The high voltage is within the permissible limits when the operating voltage of the horizontal deflection stage equals 155 V (132 V, Vi 24") at the minimum beam current. In servicing, check and adjust this voltage to the nominal value with Po1.

(D) SICHERHEITSBESTIMMUNGEN:

Bei Reparaturen gültige Sicherheitsvorschriften beachten!

⚠ Sicherheitsbauteil im Sinn der Sicherheitsbestimmung. Diese Teile dürfen nur durch Originalteile ersetzt werden.

RÖNTGENVERORDNUNG:

Die in der Röntgenverordnung festgelegte Ortsdosisleistung ist bei diesem Gerät durch die Bildröhrentype und die maximal zulässige Hochspannung gewährleistet. Dei Hochspannung darf maximal 30 kV betragen. Dei Hochspannung liegt im zulässigen Bereich, wenn die Betriebsspannung der Horizontal-Ablenkungstufe bei minimalen Strahlstrom 155 V (132 V, Vi 24") beträgt. Bei Reparaturen ist die Spannung zu überprüfen und gegebenenfalls mit Po1 auf Sollwert einzustellen.

(S) SÄKERHETS DIREKTIV:

Gällande säkerhetsdirektiv måste beaktas vid service-ingrepp!

⚠ Skyddskomponenter. Dessa komponenter får endast ersättas med original reservdelar.

RÖNTGENSTRÅLNING:

Med hjälp av bildrörstyp och begränsning av maximum högspänning kan mottagarens röntgenstrålning säkras under tillåten nivå. Högspänningen får inte överskrida 30 kV. Högspänningen är inom tillåten nivå när horisontalslutstegets drivspänning är 155 V (132 V, Vi 24") med minimum strålström. Kontrollera och ställ in spänningen till dess nominella värde med Po1.

(F) Contenu

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(I) Indice

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DOLBY SURROUND
PRO • LOGIC

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(F) CONSIGNES DE SECURITE:

Veuillez observer les prescriptions de sécurité en viguer lors de dépannage!

⚠ Composant de sécurité conformément aux reglementations de sécurité. Ces composants doivent être uniquement remplacés par des piéces d'origines.

REGLEMENTATIONS RELATIVES AUX RAYONS X:

Le type de tube image et le maximum de haute tension assure que l'intensité des rayons X emis, pour ce recepteur, sont bien en dessous des valeurs admissibles. La haute tension ne doit pas dépasser 30 kV. La haute tension de l'etrage de déviation horizontale est egale à 155 V (132 V, Vi 24") pour un minimum de courant de faisceau. Vérifier et régler, en mode service, cette tension à l'aide de Po1.

REGOLAMENTI DI SICUREZZA:

(I) Osservare le norme di sicurezza vigenti in caso di reperazioni !

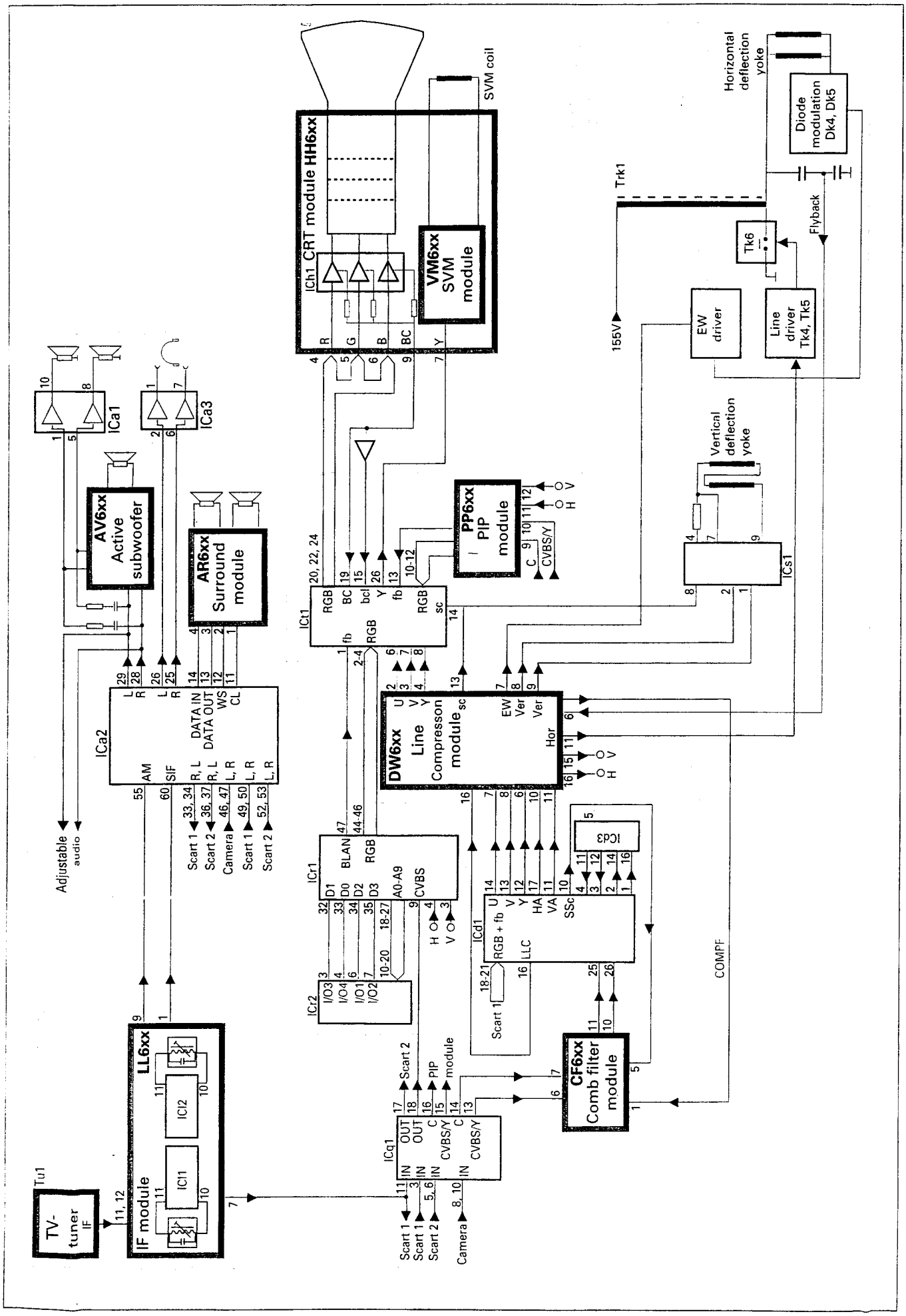
⚠ Componenti di sicurezza ai sensi del regolamento di sicurezza. Queste componenti devono venir sostituite unicamente con parti originali.

REGOLAMENTAZIONE DEI RAGGI-X:

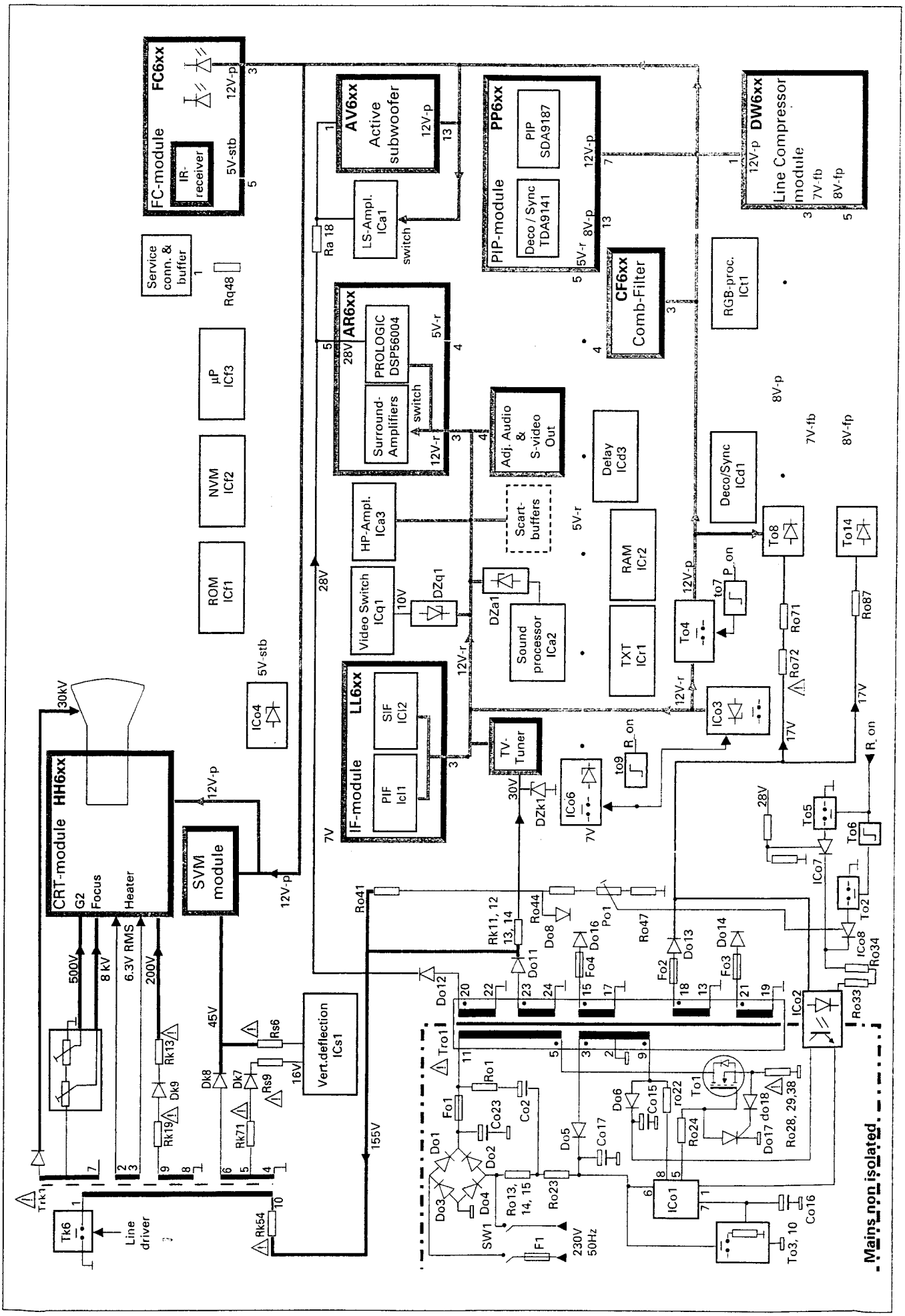
Il tipo di cinescopio impiegato e l'uttilizzo dalla massima tensione anodica permessa, assicurano che l'intensita dei raggi-X emessi dal televisore siano abbondantemente al di sotto dei valori permessi. La tensine anodica non deve eccedere i 30 kV. La tensione anodica è all'intemo dei limitti stabiliti quando la tensione di lavoro dello stadio di deflessione orizzontale è di 155 V (132 V, Vi 24"). Tali misure devono essere effettuate con la corrente di raggio al minimo. In caso di intervento, controllare tale tensione ed eventualmente regolaria con il trimmer Po1.

Technical data	Technische daten	Tekniska data	
Mains power	Netzanschluß	Nätanslutning	230 V (-10% ... +6%), 50 Hz
Power consumption: Stand by Average (Depends on accessories)	Leistungsaufnahme: Stand by Im Mittel (Von der Ausstattung abhängig)	Effektförbrukning: Stand by I medeltal (Beroende på utrustning)	 Max.10 W 120 W (28")
Picture tube	Bildröhre	Bildrör	24"(16:9) 28"(16:9)
Programme memory locations	Vorwählbare Kanäle	Antal programplatser	99
AV memory locations	AV-Speicherplätze	Antal AV-programplatser	3
Sound output Internal subwoofer Dolby Surround: Surround channel Centre channel	Ton-Endstufe Inner subwoofer Dolby Surround: Surround-Kanäle Mittel-Kanäle	Ljudeffekt Inbyggd subwoofer Dolby Surround: Surround-Kanal Center-Kanal	2 x 12 W (8 Ω) 14 W (16 Ω) 2 x 6 W (8 Ω) 12 W (8 Ω)
Chassis: Mains isolated Digital controlled	Ausstattung: Netzisolerd Digitalkontrolliert	Chassi Nätsisolerad Digitalstyrt	
Connections On the front panel 3 x chinch	Anschlüsse Auf der Frontplatte 3 x chinch	Anslutningar På framsidan 3 x chinch	 Audio in 0,5 V / 10 kΩ Video in 1 V / 75 Ω Y / C in (S-VHS)
Headphones	Kopfhöreranschluß	Anslutning för hörlurar	3,5 mm / 8 ... 600 Ω
On the rear panel SCART 1	Auf der Rückwand SCART 1	På baksidan SCART 1	 Audio out 0,5 V / 1 kΩ Audio in 0,5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω Y / C in (S-VHS)
SCART 2	SCART 2	SCART 2	Audio out 0,5 V / 1 kΩ Audio in 0,5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω RGB in 0,7 V / 75 Ω
Extra loudspeakers	Zusatzlautsprecher	Extra högtalaranslutning	12 W (8 Ω)
Aerial	Antenneneingang	Antennanslutning	75 Ω
Specifications subject to change	**Änderungen vorbehalten**	**Rätt till ändringar förbehålles**	

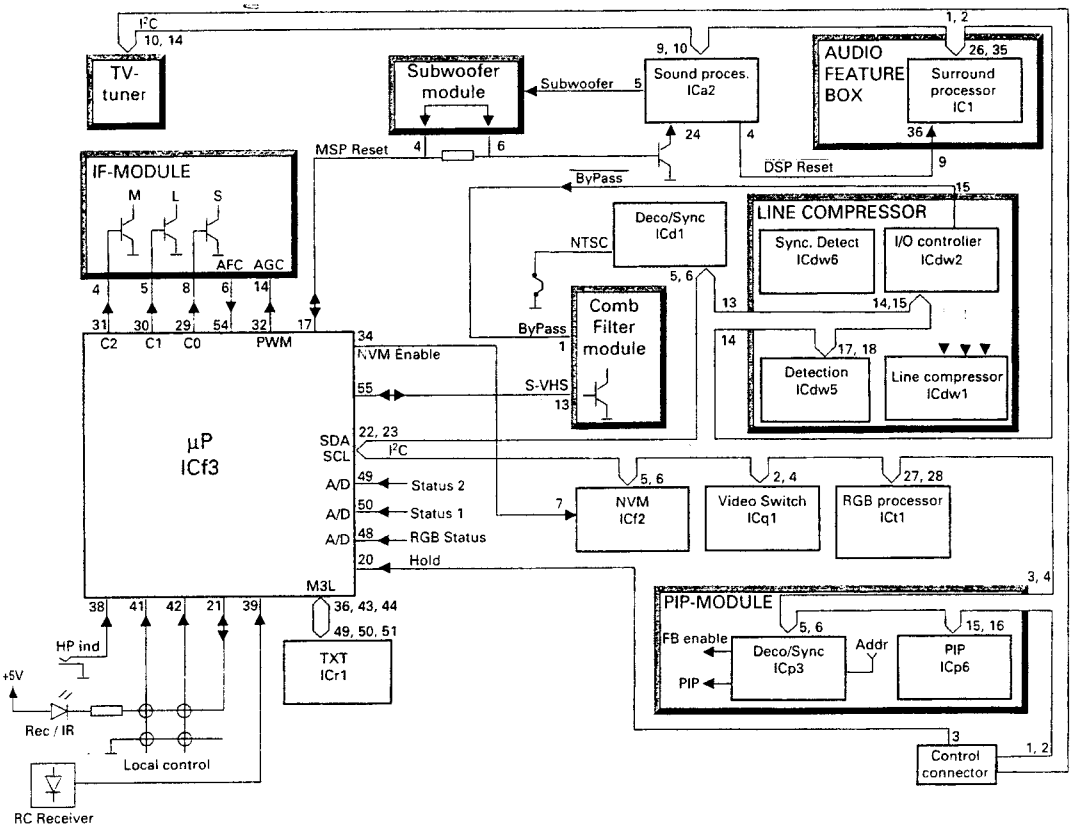
Dati Technici	Donnees Techniques	
Tensio do rete	Branchement secteur	230 V (-10% ... +6%), 50 Hz
Consumo di energi: Stand by In media (Dipendere da accessorio)	Puissance de consommation: Stand by En moyenne (Dépandant des accessoires)	 Max. 10 W 120 W (28")
Tubo a raggi catodici	Tube image	24"(16:9) 28"(16:9)
Locazioni di memoria	Présélections	99
Locazioni di memoria AV	Memoires AV	3
Potenza audio in uscita Subwoofer interno Dolby Surround: Surround canaux Central canaux	Puissance de sortie son Subwoofer interne Dolby Surrond: Surround canali Center canali	2 x 12 W (8 Ω) 14 W (16 Ω) 2 x 6 W (8 Ω) 12 W (8 Ω)
Chassi: Rete isolata Digitalmente controllata	Chassis: Isolé Avec contrôle numérique	
Collegamenti Frontali 3 x chinch	Cablage Prises avants 3 x chinch	 Audio in 0,5 V / 10 kΩ Video in 1 V / 75 Ω Y / C in (S-VHS)
Cuffie	Casque	3,5 mm / 8 ... 600 Ω
Posteriori SCART 1	Prises arrières SCART 1	 Audio out 0,5 V / 1 kΩ Audio in 0,5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω Y / C in (S-VHS)
SCART 2	SCART 2	Audio out 0,5 V / 1 kΩ Audio in 0,5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω RGB in 0,7 V / 75 Ω
Altoparlanti addizionale	Les haut-parleurs extérieur	12 W (8 Ω)
Ingresso per l'antenna	Antenne	75 Ω
Ci reserviamo il diritto di apportare modifiche ulteriori	**Sous réserve de modifications!**	


TV-tuner IF
Tu1
IF module
LL6xx
ICl1
ICl2
ICa1
ICa3
AV6xx Active subwoofer
AR6xx Surround module
ICa2
Adjustable audio
Scart 1
Scart 2
Camera
ICr1
ICr2
ICq1
ICd1
ICd3
ICs1
ICt1
CRT module HH6xx
ICh1
VM6xx SVM module
SVM coil
PP6xx PIP module
DW6xx Line Compresson module
CF6xx Comb filter module
EW driver
Line driver Tk4, Tk5
Tk6
Trk1
155V
Flyback
Horizontal deflection yoke
Diode modulation Dk4, Dk5
Vertical deflection yoke
COMPF

Block diagram, power supply



Block diagram, control signals



Service mode selection:
Switch on the receiver by pressing the mains switch and within 5 s. press the remote control buttons MENU, TV and "i" successively.

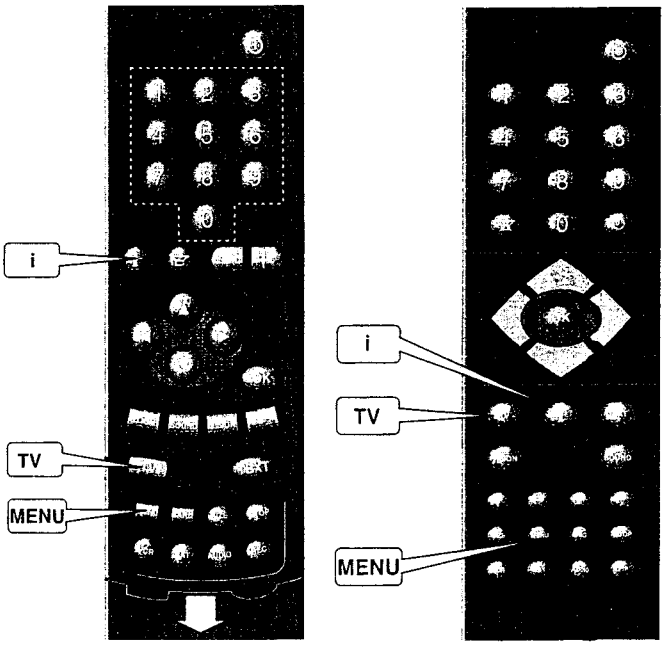
Wahl des service-modus:
Einschalten Sie das Gerät mit dem Netzschalter und innerhalb 5 Sekunden Drücken Sie nacheinander die Fernbedienungstasten MENU, TV und "i".

Val av service-läge:
Slå på mottagaren med huvudströmbytaren och inom 5 s. tryck på fjärrkontrollens MENU, TV och "i" knappar succesivt.

Selection du mode service:
Mettre le récepteur en marche á l'aide de l'interrupteur principal et dans les 5 secondes appuyez successivement sur les touches MENU, TV et "i" de la télécommande.

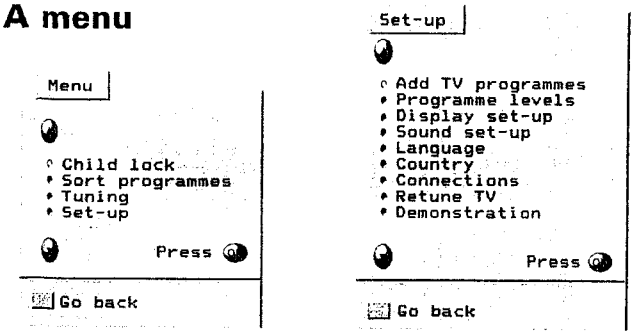
Selezione del modo servizio:
Accendere il ricevitore tramite l'interruttore generale e premendo in sequenza i tasti del telecomando MENU, TV e "i" entro 5 secondi.

A menu **B menu**



Operating instructions

A menu



Language selection

1. Press the MENU button (under the lid).
2. Select the "Set-up" with the cursor buttons (up-/downwards) and press the OK button.
3. Select the "Language" and press the OK button.
4. Select the desired language and press the OK button.
5. Press the TV button to exit.

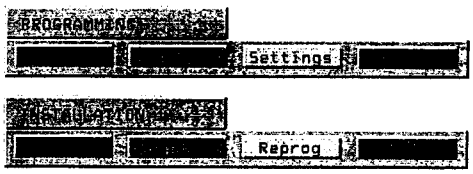
Manual tuning

1. Select programme number you want to tune.
2. Press the MENU button.
3. Select "Manual tuning" and press the OK button.
4. Press the red button (SEARCH).
5. Press the OK button to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the MENU button.
2. Select "Set-up" and press the OK button.
3. Select "Retune TV" and press the OK button.
4. To retune the channels, press the OK button.
5. Press the TV button to exit.

B menu



Language selection

1. Press the PRG button.
2. Select the Install by pressing the blue button.
3. Select the Language by pressing the red button.
4. Select the desired language with the cursor buttons and press the OK button.
5. Press the TV button to exit.

Manual tuning

1. Press the PRG button.
2. Press the red button (Tune).
3. Press the red button (Search).
4. Select the prog. number on which the channel is to be stored.
5. Press the blue button (Store) to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the PRG button.
2. Press the blue button (Install).
3. Press the yellow button (Reprog).
4. Press the red button (APSi).
5. Press the yellow button (Reprog).
6. Press the blue button (OK) to exit.

NVRAM (ICf2)

Initialization of NVRAM

The NVRAM must be initialized and configured, if the NVRAM is replaced or it has totally lost its data. The next procedure is assuming that the tv does not start at all due to wrong data in NVRAM.

1. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively.
   Note! The receiver is in the service mode although it looks like the receiver is in stand-by mode!
2. Press the RED-button to pre-configurate the set. Green led will flash once to indicate this.

3a At the same time the controller will check NVRAM and initializes it automatically if it was "empty". Initializing will take about 15s. When it is complet, the green led will light up. Continue to step 4.

3b The automatic initializing did not happen, if the green led does not light up steady. In some cases the led might also light up immediately after configuration without any initializing, depending on NVRAM contents. In this case it might be enough to to store the new configuration by pressing "OK". Continue to step 4.

3c If the automatic initializing did not happen, you can start it manually by entering the key code: BLUE (wait approx. 2s), 2, 5, 4 (wait approx. 2s) and OK.
Initializing will take about 15 s.

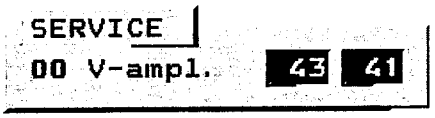
4. Switch off the receiver by pressing the mains switch.
5. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively. If the receiver remains in stand-by mode, press the TV button twice and then press the "i" button.
6. Configurate the receiver by pressing the RED button. The configuration menu will show up.
7. Press the OK button.
8. Press the TV-button and tune in one or more tv channels.
9. Return to service mode by pressing "i" button
10. After that make all of the service adjustments (see section "Service adjustments via IIC bus").
11. Switch off the receiver by pressing the mains switch.

Service adjustments

Service mode selection

1. Set the receiver to the service mode by switching on the set with the main switch and within 5 seconds pressing the remote control buttons MENU, TV and "i" successively.

***Note!** If the receiver remains in stand by mode after selecting the service mode, switch on the receiver by pressing the TV button twice and select the service mode by pressing the "i" button.*



In the service mode an adjustment menu (including the adjustment number and name, initializing (left) and adjustment (right)) values are shown on the screen.

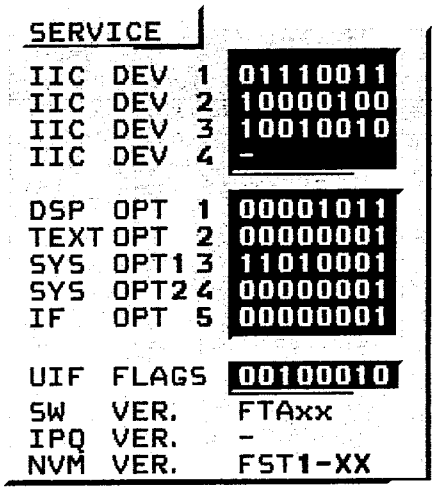
2. Return from the service mode by switching off the receiver with the mains switch.

Configuration and fault diagnosis

The set must be configured after adding or removing some options. By pressing the red button in the service mode, the processor checks all possible addresses of bus driven circuits and shows the settings on the screen.
This feature can also be used in fault finding; if an option bit is not "1" when it should be or if it is not possible to change it to "1" by using the number buttons, the IC is either not present or it is faulty.

Changing the option bytes

1. When in service mode, select the configuration mode by pressing the red button.



Description

SW VER. = µP software version.
NVM VER. = NVM software version.

2. Select IIC Device byte 1 - 4 or Option byte 1 - 5 with the cursor button (up-/downwards). Selected byte is shown highlighted.
3. Set the bits with the number buttons (0 ... 7).
4. Store the settings by pressing the OK button.
5. Return to the service mode by pressing the red button again.

Option byte description

Bit	Description	Setting '1'	'0'
	7 6 5 4 3 2 1 0 **IIC DEV 1 01110011**		
0	TV tuner	Yes	No
1	Decoder TDA9141	Yes	No
4	Deflection controller TDA9151	Yes	No
5	RGB processor TDA4780	Yes	No
6	Video switch TDA6417	Yes	No
7	PIP controller SDA9188	Yes	No
	IIC DEV 2 10000100		
0	PIP tuner	Yes	No
2	Megatext SDA5273	Yes	No
7	MSP3400 / 3410	Yes	No
	IIC DEV 3 10010010		
0	DSP (AR600)	Yes	No
1	Subwoofer	Yes	No
4	Comb filter (SVHS line low)	Yes	No
6	DSP (AR602)	Yes	No
7	I/O PCF8574 (DW 6xxmodule)	Yes	No
	DSP OPT 1 01011011		
0-3	Loudspeaker configuration (user mode)	Yes	No
4	Bass splitting (Manual)	Yes	No
6	Pre-equalization for DSP (manual)	Yes	No
	TEXT OPT 2 00000001		
0	TXT with external RAM	Yes	No
2	Flof text enabled (manual)	Yes	No
4	TXT sync mode (manual)	Yes	No
5	Subpage rolling (manual)	Yes	No
	SYS OPT 1 11110001		
0	Camera connector installed (manual)	Yes	No
3	RGB E1	Yes	No
4	NTSC 3.58 MHz	Yes	No
5	ACI enabled (manual)	Yes	No
6	NICAM enabled (manual)	Yes	No
7	Loudness enabled (manual)	Yes	No
	SYS OPT 2 00000000		
6	Start TV to demo mode	Yes	No
7	Hotel TV functions enabled	Yes	No
	IF OPT 5 00000001		
0	B/G system	Yes	No
1	I system	Yes	No
2	D/K system	Yes	No
3	L/L' system	Yes	No
5	Baseband	Yes	No
7	Only UHF tuner	Yes	No
	UIF FLAGS 00000001		
4	OEM option	Yes	No

Service adjustments via IIC-bus

RC buttons in service mode

When the receiver is in service mode you can select the normal TV mode by pressing the TV button and return to the service mode by pressing the "i" button.
Number and cursor buttons are used for service adjustment. The yellow button hides temporarely the service menu. The OK button stores the settings.

Note! *Before other adjustments U1 voltage must be adjusted.*

Adjustment for different picture format

First make all adjustments with normal 4:3 picture format. The TV uses these adjustment values for all picture formats if no other adjustments were made. In each adjustment it is mentioned if the adjustment must be done separately for different picture format, repeate only those adjustments.

Note! *The picture geometry adjustments must be done with 16:9 picture format.*

Making the service adjustment

1. Give a two numbered code which determines the adjustment (e.g. 05 = horizontal phase, see the following tables) with the number buttons.

Note! *The adjustments can also be selected with the cursor button (up-/downwards).*

2. Adjust with the cursor button (left/right).

3. Store the new value by pressing the OK button.

Note!

- *To avoid incomplete adjustments store each adjustment in the memory immediately after adjusting.*
- *If the adjustment has to be made separately for different picture format, select the normal user mode by pressing the TV button and change the picture format with the ZOOM button. Return to service mode by pressing the the "i" button.*

Vertical picture adjustments

Adjustment	Code	OSD name	Init. value	Note!
Vertical amplitude	00	V-ampl.	43	Adjust the picture height to correct ratio.
Vertical off-centre shift	01	V-shift	3	
Vertical start scan	02	V-start	6	
Vertical S-correction	03	S-corr.	27	Separate adjustment for 4:3 format!
Vertical slope 4:3 zoom (coarce)	12	Zoom-H	71	Select 4:3 zoom picture format and adjust the
Vertical slope 4:3 zoom (fine)	13	Zoom-L	0	picture to correct ratio. Separate adjustment for 60Hz NTSC transmission!
Center value, 4:3 zoom shift (V-wait)	14	Shift	28	Before adjustment select 4:3 zoom picture format!

Horizontal picture adjustments

Adjustment	Code	OSD name	Init. value	Note!
EW width	04	Width	35	Set brightness and contrast to 10%.
Horizontal phase	05	H-shift	27	Separate adjustments for normal 4:3, 4:3 zoom and full screen picture format (4:3 zoom or 16:9 format; adjust with only one of these picture formats)!
H-phase RGB				In addition make same adjustments by using RGB signal!
H-phase RGB zoom				
EW parabola	06	Parab.	13	
EW corner	07	Corner	0	
EW trapezium	08	Trapez	2	
EHT compenzation	09	EHT	18	Set brightness and contrast to 90% and compensate the change in picture size.

Other adjustments

Adjustment	Code	OSD name	Init. value	Note!
Red gain	17	R gain	41	This procedure is necessary e.g. when the picture
Green gain	18	G gain	32	tube, CRT-module etc. has been replaced!
Blue gain	19	B gain	32	Apply a test picture and adjust the R, G and B references. Then adjust the R, G and B gains.
Red reference	20	R ref.	52	
Green reference	21	G ref.	21	
Blue reference	22	B ref.	16	
Clamp shift	11	Clamp	0	Normally no need to adjust.
Peak white limit	23	PWL	63	Normally no need to adjust.
Gamma correction	24	GAMMA	32	Normally no need to adjust.
Tuner AGC	25	TV AGC	170	Apply a 1 mV (60 dBµV) test signal. Adjust the picture just without noise.

Service adjustments

O Power supply block

Supply voltage (U1) and protection circuit

1. Set brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Do11.

2. Adjust with Po1 the DC voltage (U1) for +155 V (±1 V) / 132 V(Vi 24")

3. Check the over-current protection after making any service operations in the primary circuit of the power supply. Set the receiver to the stand-by mode. Short circuit the cathode of Do 13 to the ground and keep the short circuit connected. When the over-current protection works correctly, the power supply stops. Remove the short circuit and switch on the receiver by pressing the mains button.

K Horizontal deflection block

Focusing

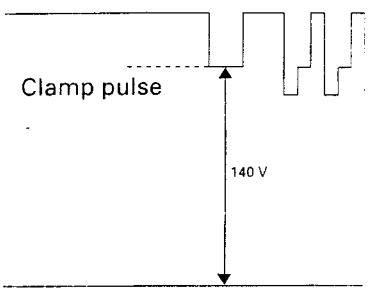
Set brightness to normal level and contrast to high level. Use cross hatch pattern and adjust the picture for optimum resolution.

(Screen grid voltage) Ug2 voltage

1. Set contrast to minimum, brightness and colour saturation to normal level.

2. At the end of the vertical blanking, there is a black current measurement pulse (clamp pulse) at pins 9, 12 and 15 of ICh1. Use an oscilloscope and find the output stage with the highest cut-off (ie. the highest voltage during the black current measurement pulse).

3. Adjust the voltage of the clamp pulse to +140 V with Ug2.



Note! Adjust the voltage with clamp pulse.

LL Picture and sound IF-module

Video demodulator

1. Apply a test signal (1 mV = 60 dBµV).

2. Connect an universal voltmeter to the module connector X1 pin 6.

3. Adjust with LL6 the DC voltage to the point where it changes from 0 to 5 V.

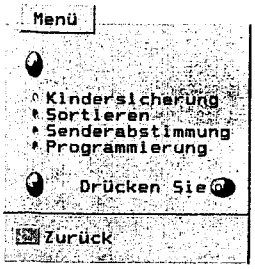
Sound demodulator

1. Apply a CCIR B/G standard (FM modulated sound) test signal.

2. Connect a universal voltmeter to ICL1 pin 13.

3. Adjust with LL1 the DC voltage for +2.7 V.

A Menü



Sprach Auswahl

1. Drücken Sie die MENU Taste.
2. Wählen Sie die Option "Programmierung" durch Drücken der Cursor-Taste (auf-/abwärts) und drücken Sie die OK Taste
3. Wählen Sie die Option "Sprache" und drücken Sie die OK Taste .
4. Wählen Sie die gewünschte Sprache und drücken Sie die OK Taste .
5. Drücken Sie die TV Taste.

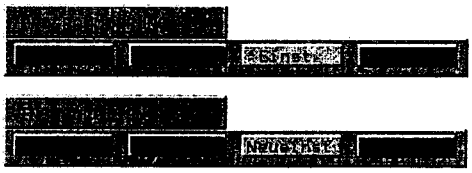
Manuelle Abstimmung

1. Wählen Sie die Programm-Nummer, die Sie abstimmen wollen.
2. Drücken Sie die MENU Taste.
3. Wählen Sie die Option "Programmierung" und drücken Sie die OK Taste.
4. Starten Sie den Kanalsuchlauf durch Drücken der roten Taste.
5. Die Speicherung erfolgt durch Drücken der OK Taste.
6. Durch Drücken der TV Taste kehren Sie zum normalen Fernsehempfang zurück.

APSi

1. Drücken Sie die Taste MENU.
2. Wählen Sie die Option "Programmierung" und drücken Sie die OK Taste.
3. Wählen Sie die Option "Neuprogrammierung" und drücken Sie die OK Taste.
4. Starten Sie den Kanalsuchlauf durch Drücken der OK Taste.
5. Durch Drücken der TV Taste kehren Sie zum normalen Fernsehempfang zurück.

B Menü



Sprach Auswahl

1. Drücken Sie die Taste PRG.
2. Wählen Sie Install. durch Drücken der blauen Taste.
3. Wählen Sie Sprache durch Drücken der roten Taste.
4. Wählen Sie die gewünschte Sprache mit der Cursor-Taste (auf-/abwärts) und drücken Sie die Taste OK.
5. Drücken Sie die Taste TV.

Manuelle Abstimmung

1. Drücken Sie die Taste PRG.
2. Drücken Sie die rote Taste (Abstimm.).
3. Drücken Sie die rote Taste (Suchen).
4. Wählen Sie die Pr. Nummer unter der neue Kanal abgespeichert werden soll.
5. Drücken Sie die blaue Taste (Speicher).
6. Durch Drücken der Taste TV kehren Sie zum normalen Fernsehempfang zurück.

APSi

1. Drücken Sie die Taste PRG.
2. Drücken Sie die blaue Taste (Install.).
3. Drücken Sie die gelbe Taste (Neueinst.).
4. Drücken Sie die rote Taste (APSi).
5. Drücken Sie die grüne Taste (Neueinst.).
6. Drücken Sie die blaue Taste (OK) zum Beenden.

NVRAM (ICf2)

Initialisierung des NVRAM

Der NVRAM muß nach Austausch oder bei Datenverlust initialisiert und konfiguriert werden. Die nachfolgende Beschreibung setzt voraus, daß der Fernseher auf Grund falscher Daten im NVRAM nicht eingeschaltet werden kann.

1. Bringen Sie den Empfänger in den Service Modus, indem Sie nach dem Einschalten des Empfängers innerhalb von 5 Sekunden die Tasten MENU, TV und "i" nacheinander drücken. Hinweis! Der Empfänger befindet sich im ServiceModus auch wenn es so aussieht als ob er sich im Standby befindet.
2. Drücken Sie die rote Taste, um das Gerät vorzukonfigurieren. Dies wird Ihnen durch eine grüne, blinkende Leuchtdiode signalisiert.

3a. Gleichzeitig überprüft der Controller den NVRAM und initialisiert ihn automatisch, wenn er leer ist. Die Initialisierung dauert ungefähr 15 Sekunden. Nach erfolgreicher Initialisierung leuchtet die grüne Leuchtdiode ständig. Fahren Sie fort bei Schritt 4.

3b. Die automatische Initialisierung erfolgte nicht: Die grüne Leuchtdiode leuchtet nicht ständig. Es kann auch vorkommen, daß die Leuchtdiode sofort nach der Konfiguration aufleuchtet, ohne daß der NVRAM initialisiert wurde. Dies hängt ab vom Inhalt des NVRAMs. In diesem Fall könnte es ausreichen die neue Konfiguration mit „OK" zu speichern. Fahren Sie fort bei Schritt 4.

3c. Erfolgte keine automatische Initialisierung, so können Sie manuell starten. Drücken Sie hierzu zuerst die blaue Taste, warten Sie ca. 2 Sekunden, drücken Sie dann die Zifferntasten 2, 5 und 4, warten Sie erneut ca. 2 Sekunden und drücken Sie „OK". Die Initialisierung dauert ungefähr 15 Sekunden.

4. Schalten Sie das Gerät mit dem Netzschalter aus.
5. Bringen Sie den Empfänger in den Service Modus, indem Sie nach dem Einschalten des Empfängers innerhalb von 5 Sekunden die Tasten MENU, TV und "i" nacheinander drücken. Bleibt der Empfänger im Standby, drücken Sie zweimal die TV-Taste und anschließend die i-Taste.
6. Konfigurieren Sie das Gerät durch Drücken der roten Taste. Das Konfigurationsmenü erscheint.
7. Drücken Sie die OK-Taste.
8. Drücken Sie die TV-Taste und stellen Sie ein oder mehrere Fernsehkanäle ein.
9. Kehren Sie durch drücken der i-Taste zum Service Modus zurück.
10. Führen Sie danach die Service-Einstellungen durch (siehe Kapitel "Service -einstellungen uber IIC-bus").
11. Schalten Sie das Gerät mit dem Netzschalter aus.

Service-Einstellungen

Wahl des Service-modus

1. Den Empfänger setzen Sie in den Service-Modus, indem Sie das Gerät mit dem Netzschalter einschalten und innerhalb von 5 Sekunden die Fernbedienungstasten MENU, TV und "i" nacheinander drücken.

Hinweis! Bleibt der Empfänger nach Wahl des Service-Modus in Betriebsbereitschaft, ist das Gerät einzuschalten, indem Sie die Taste TV zweimal drücken und den Service-Modus durch Drücken der Taste i bestätigen.

Im Service-Modus wird auf dem Bildschirm ein Einstellungsmenü mit den Werten von Initialisierung (links) und Einstellung (rechts) (einschließlich der Nummer und der Bezeichnung der Einstellung) angezeigt.

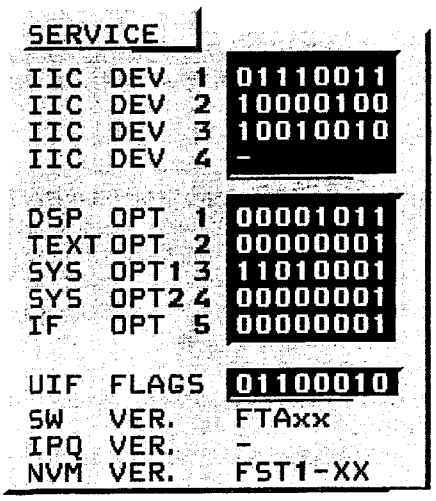
2. Den Service-Modus verlassen Sie, indem Sie den Empfänger mittels des Netzschalters ausschalten.

Konfigutation und fehlerdiagnose

Das Gerät muß nach Einbau oder Ausbau einiger Features konfiguriert werden. Indem Sie die rote Taste im Service-Modus drücken, prüft der Prozessor alle möglichen Adressen der busgesteuerten Schaltkreise und zeigt die Einstellungen auf dem Bildschirm an.
Diese Funktion können Sie auch bei der Fehlereingrenzung benutzen. Ist ein Optionsbit, das auf "1" gesetzt sein sollte, nicht gleich "1", oder ist es nicht möglich, es mit den Zifferntasten auf "1" zu setzen, dann ist der integrierte Schaltkreis entweder nicht vorhanden oder fehlerhaft.

Änderung der Options-Bytes

1. Wählen Sie im Service-Modus den Konfigurationsmodus, indem Sie die rote Taste drücken.



Beschreibung
SW VER. = µP Software-Version.
NVM VER. = NVM Software-Version.

2. Wählen Sie Byte 1 - 4 des IIC-Bausteins oder das Options-Byte 1 -5 mit den Cursortasten (aufwärts/abwärts). Das gewählte Byte wird hervorgehoben.
3. Setzen Sie die Bits mit den Zifferntasten (0 ... 7).
4. Speichern Sie die Einstellungen durch Drücken der OK Taste ab.
5. Rufen Sie den Service-Modus durch erneutes Drücken der roten Taste auf.

Beschreibungen der option-bytes

Bit	Beschreibung	Einstellung	'1'	'0'
		7 6 5 4 3 2 1 0		
	IIC DEV 1	**01110011**		
0	TV-Tuner		Ja	Nein
1	Decoder TDA9141		Ja	Nein
4	Ablenk-Steuerung TDA9151		Ja	Nein
5	RGB-Prozessor TDA4780		Ja	Nein
6	Video-Schalter TDA6417		Ja	Nein
7	PIP-Steuerung SDA9188		Ja	Nein
	IIC DEV 2	**10000100**		
0	PIP-Tuner		Ja	Nein
2	Megatext SDA5273		Ja	Nein
7	MSP3400 / 3410		Ja	Nein
	IIC DEV 3	**10010010**		
0	DSP (AR600)		Ja	Nein
1	Subwoofer		Ja	Nein
4	Kamm-Filter (SVHS-Eingang aus)		Ja	Nein
6	DSP (AR602)		Ja	Nein
7	I/O PCF8574 (DW6xx modul)		Ja	Nein
	DSP OPT 1	**01011011**		
0-3	Lautsprecher-Konfiguration (eingestellt im Benutzer-Modus)		Ja	Nein
4	Bass-Verteilung (manual)		Ja	Nein
6	DSP-Surround für Lautsprecher-Vorentzerrung (manual)		Ja	Nein
	TEXT OPT 2	**00000001**		
0	TXT mit externen RAM		Ja	Nein
2	Flof-TXT aktiviert (manual)		Ja	Nein
4	Text sync (manual)		Ja	Nein
5	Durchlaufen von texttunterseiten		Ja	Nein
	SYS OPT 1	**11110001**		
0	Kamera-Eingang installiert (manual)		Ja	Nein
3	RGB E1		Ja	Nein
4	NTSC 3.58 MHz		Ja	Nein
5	ACI aktiviert (manual)		Ja	Nein
6	NICAM aktiviert (manual)		Ja	Nein
7	Loudness aktiviert (manual)		Ja	Nein
	SYS OPT 2	**00000000**		
6	Aktiviert Demo-Modus beim Einschalten		Ja	Nein
7	Aktiviert Hotel-TV-Modus beim Einschalten		Ja	Nein
	IF OPT 5	**00000001**		
0	B/G-System		Ja	Nein
1	I-System		Ja	Nein
2	D/K-System		Ja	Nein
3	L/L'-System		Ja	Nein
5	Baseband		Ja	Nein
7	Nur UHF-Tuner		Ja	Nein
	UIF FLAGS	**00000001**		
4	OEM option		Ja	Nein

Service-Einstellungen über IIC-Bus

Fernbedienungstasten im Service-Modus

Befindet sich der Empfänger im Service-Modus, können Sie durch Drücken der TV Taste in den normalen TV-mode wechseln und zum Service-Modus durch Betätigen der "i" Taste zurückkehren.
Die Ziffern- und Cursortasten verwenden Sie für die Service-Einstellungen. Die gelbe Taste blendet das Service-Menü vorübergehend aus. Mit der OK Taste speichern Sie die Einstellungen ab.

***Achtung!** Vor dem Abgleich U1-Einstellung überprüfen.*

Einstellung für verschiedene Bildformate

Nehmen Sie zunächst alle Einstellungen mit normalem 4:3 Bildformat vor. Das Fernsehgerät benutzt diese Einstellwerte für alle Bildformate, wenn keine anderen Einstellungen vorgenommen wurden. Bei jeder Einstellung ist angegeben, ob die Einstellung für ein anderes Bildschirmformat separat vorgenommen werden muß. Wiederholen Sie nur diese Einstellungen.

***Hinweis!** Die Geometrie-Einstellung muß mit 16:9 Bild werden.*

Service-Einstellung vornehmen

1. Geben Sie einen zweiziffrigen Code ein, mit dem die Einstellung festgelegt ist (z.B. 05 = horizontale Lage; siehe folgende Tabellen). Benutzen Sie dazu die Zifferntasten.

***Hinweis!** Die Einstellungen können Sie auch mit den Cursortasten (aufwärts/abwärts) wählen.*

2. Nehmen Sie die Einstellungen mit den Cursortasten (links/rechts) vor.

3. Speichern Sie den neuen Wert durch Betätigung der OK Taste ab.

Hinweis!

- *Zur Vermeidung unvollständiger Einstellungen speichern Sie jede Einstellung sofort, nachdem diese vorgenommen wurde, ab.*
- *Sind die Einstellungen für unterschiedliche Bildformate separat vorzunehmen, wählen Sie den normalen TV-Modus, indem Sie die TV Taste drücken. Ändern Sie dann das Bildformat mit der Zoom-Taste. Nach Betätigung der "i"Taste gelangen Sie wieder in den Service-Modus.*

Vertikale bildeinstellungen

Einstellung	Code	OSD-Bezeichn.	Init. Wert	Hinweis!
Vertikale Amplitude	00	V-ampl.	43	Stellen Sie die Bildhöhe auf das richtige Verhältnis ein.
Vertikale Lage	01	V-shift	3	
Vertikale Start-Zeile	02	V-start	6	
Vertikale Linearität	03	S-corr.	27	Separate Einstellungen für normales 4:3!
Vertikale Steilheit 4:3 Zoom (grob)	12	Zoom-H	71	Wählen Sie das 4:3 Zoom-Bildformat und stellen Sie das Bild auf das richtige Verhältnis ein.
Vertikale Steilheit 4:3 Zoom (fein)	13	Zoom-L	0	Separate Einstellung für 60 Hz NTSC Sendung!
Zentrierwert, 4:3 Zoom-Verschiebung (V-wait)	14	Shift	28	Vor der Einstellung wählen Sie 4:3 Zoom-Bildformat!

Horizontale bildeinstellungen

Einstellung	Code	OSD-Bezeichn.	Init. Wert	Hinweis!
Bildbreite	04	Width	35	Stellen Sie die Helligkeit und den Kontrast auf 10 %
Horizontale Lage	05	H-shift	27	Separate Einstellungen für normales 4:3-, 4:3-zoom und Vollbildschirm (4:3 Zoom und 16:9-Bildformat; Nur mit einem von diesen Formaten einstellen)!
RGB H-Lage Zoom RGB H-Lage				Zusätzlich dieselben Einstellungen mit dem RGB-Signal vornehmen.
OW-Kissen	06	Parab.	13	
OW-Ecken Korrektur	07	Corner	0	
OW-Trapez	08	Trapez	2	
EHT-Kompensation	09	EHT	18	Stellen Sie die Helligkeit und den Kontrast auf 90 % ein und kompensieren Sie die Änderung der Bildgröße.

Weitere einstellungen

Einstellung	Code	OSD-Bezeichn.	Init. Wert	Hinweis!
Rotverstärkung	17	R gain	41	Dieser Abgleich wird erforderlich wenn z.B. die Bildröhre, die Bildröhrenplatte etc. gewechselt wurden! Testbild einspeisen und die R-, G- und B-Referenzwert einstellen. Danach die R-, G- und B-Verstärkung einstellen.
Grünverstärkung	18	G gain	32	
Blauverstärkung	19	B gain	32	
Rot-Referenz	20	R ref.	52	
Grün-Referenz	21	G ref.	21	
Blau-Referenz	22	B ref.	16	
Clamp-Shift	11	Clamp	0	Normalerweise keine Einstellung erforderlich.
Oberer Grenzwert weiß	23	PWL	63	Normalerweise keine Einstellung erforderlich.
Gamma-Korrektur	24	GAMMA	32	Normalerweise keine Einstellung erforderlich.
Tuner-AGC	25	TV AGC	170	Ein 1 mV (60 dBµV) Testsignal aufschalten.

Service-Einstellungen

O Netzteil

Versorgungsspannung (U1) und Schutzschaltung

1. Setzen Sie die Helligkeit und den Kontrast auf den normalen Pegel. Schließen Sie ein Universal Voltmeter an die Kathode von Do11 an.

2. Stellen Sie die Gleichspannung (U1) mit Po1 auf +155 V (±1 V) / 132 V (Vi 24") ein.

3. Nach Reparaturen am Primärkreis des Netzteils muß die Überstrom-Sicherung geprüft werden. Schalten Sie das Gerät in den Stand-by Modus. Schließen Sie die Kathode von Do13 nach Masse kurz. Wenn die Überstrom-Sicherung korrekt funktioniert, schaltet das Netzteil ab. Entfernen Sie den Kurzschluß und schalten Sie das Gerät mit dem Netzschalter ein.

K Horizontale ablenkung

Fokussierung

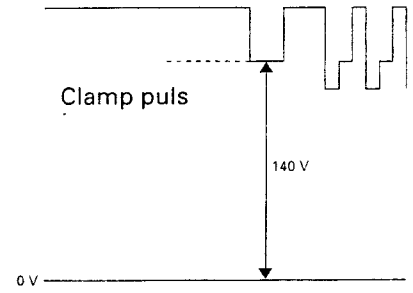
Stellen Sie die Helligkeit auf normalen und den Kontrast auf hoch Pegel ein. Stellen Sie dann anhand der Schraffur das Bild auf optimale Schärfe ein.

Bildschirm-Gitterspannung

1. Setzen Sie den Kontrast auf minimalen sowie die Helligkeit und die Farbsättigung auf normalen Pegel.

2. Prüfen Sie mit einem Oszilloskop die Amplitude der Clamp-Impulse des eingefügten Schwarzpegels während der 3. Zaile nach der vertikaler Schwarztastung am ICh1 Pin 9, Pin 12 und Pin 15.

3. Stellen Sie mit Ug2 die Amplitude des höchsten Clamp-Impulses auf +140 V ein.



Hinweis! Die Spannung auf die Clamp-Impulse einzustellen.

LL Bild und ton, ZF modul

Video-Demodulator

1. Schalten Sie ein Testsignal auf (1 mV = 60 dBµV).

2. Schließen Sie ein Universal Voltmeter an den Steckverbinder X1, Pin 6 an.

3. Stellen Sie mit LL6 die Gleichspannung auf den Wert ein, bei dem von 0 auf 5 V übergegangen wird.

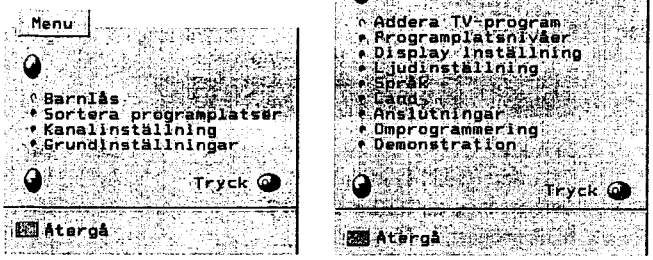
Ton-Demodulator

1. Schalten Sie ein CCIR B/G Standard Testsignal auf (frequenzmodulierter Ton).

2. Schließen Sie ein universelles Voltmeter an ICL1, Pin 13 an.

3. Stellen Sie mit LL1 die Gleichspannung auf +2,7 V ein.

A Menu



Språkval

1. Tryck på MENU-knappen.
2. Välj "Grundinställningar" med markörknapparna (upp-/nedåt) och tryck på OK.
3. Välj "Språk" och tryck på OK.
4. Välj önskat språk och tryck på OK.
5. Tryck på TV för att lämna språkvalet.

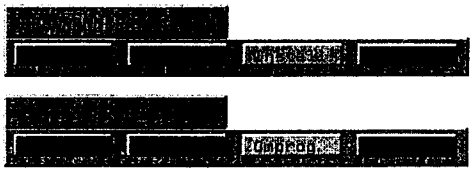
Manuell avstämning

1. Välj programplatsen som du vill avstämma.
2. Tryck på MENU-knappen.
3. Välj "Kanalinställning" och tryck på OK-knappen.
4. Starta programsökning genom att trycka på den röda färgknappen.
5. Spara i minnet genom att trycka på OK-knappen.
6. Välj normalt TV-läge genom att trycka på TV-knappen.

APSi

1. Tryck på MENU-knappen.
2. Välj "Grundinställningar" och tryck på OK-knappen.
3. Välj "Omprogrammering" och tryck på OK-knappen.
4. Avstäm kanaler på nytt genom att trycka på OK-knappen.
5. Välj normalt TV-läge genom att trycka på TV-knappen.

B Menu



Språkval

1. Tryck på PRG-knappen.
2. Välj Install genom att trycka på den blåa knappen.
3. Välj Språk genom att trycka på den röda knappen.
4. Välj önskat språk med markörknapparna (upp-/nedåt) och tryck på OK.
5. Tryck på TV för att lämna språkvalet.

Manuell avstämning

1. Tryck på PRG-knappen.
2. Tryck på den röda knappen (Avstäm).
3. Tryck på röda knappen (Sök).
4. Välj programplatsen som programmet skall sparas på.
5. Tryck på den blåa knappen (Spara).
6. Välj normalt TV-läge genom att trycka på TV-knappen.

APSi

1. Tryck på PRG-knappen.
2. Tryck på den blåa knappen (Install.).
3. Tryck på den gula knappen (Omprog.).
4. Tryck på den röda knappen (APSi).
5. Tryck på den gröna knappen (Omprog.).
6. Tryck på den blåa knappen (OK) för att avsluta.

NVRAM (ICf2)

Initialisering av NVRAM

NVRAM-minnet måste initialiseras och konfigureras, när NVRAM-minnet byts eller är totalt tömt på data. Följande procedur utgår ifrån att tv:n inte startar beroende på fel data i NVRAM.

1. Ställ mottagaren i serviceläge genom att slå på mottagaren med huvudströmbrytaren och tryck in knappsekvens MENU, TV och "i" inom 5 sekunder.
   OBS! Mottagaren är i serviceläge fast det ser ut som om den skulle vara i beredskapsläge!
2. Tryck på den röda färgknappen för att förkonfigurera enheten. Den gröna lysdioden blinkar till.

3a Samtidigt kontrolleras NVRAM-minnet och initialiseras om det var "tomt". Initialiseringen tar ca. 15 s. När initialiseringen är utförd, börjar den gröna lysdioden lysa. Fortsätt från punkt 4.

3b Automatisk initialisering blev inte utförd, om den gröna lysdioden inte börjar lysa kontinuerligt. I vissa fall kan lysdioden också börja lysa direkt efter konfigurering utan initialisering, beroende på NVRAM-minnets innehåll. I detta fall kan det räcka med att spara konfigureringen genom att trycka på OK-knappen och fortsätta med punkt 4.

3c Startar inte automatisk initialisering, kan du starta den manuellt med följande knappsekvens: BLÅ (vänta ca. 2 s.), 2, 5, 4 (vänta ca. 2 s.) och OK. Initialiseringen tar ca. 15 sekunder.

4. Stäng av mottagaren med huvudströmbrytaren.
5. Ställ mottagaren i serviceläge genom att slå på mottagaren med huvudströmbrytaren och tryck in knappsekvens MENU, TV och "i" inom 5 sekunder. Om mottagaren förblir i beredskapsläge, tryck två gånger på TV-knappen och tryck därefter på "i"-knappen.
6. Konfigurera mottagaren genom att trycka på den röda färgknappen. Konfigurerings-menyn visas på bildskärmen.
7. Tryck på OK-knappen.
8. Tryck på TV-knappen och ställ in ett eller flera TV-program.
9. Återgå till serviceläge genom att trycka på "i"-knappen.
10. Gör alla serviceinställningar (se avsnitt "Serviceinställningar via IIC-bus").
11. Stäng av mottagaren med huvudströmbrytaren.

Serviceinställningar

Val av Service-Läge

1. Ställ mottagaren i service-läge genom att koppla på den med strömbrytaren och inom 5 sekunder trycka på fjärrkontrollens MENU-, TV- och i-knappar.

Obs! Om mottagaren förblir i beredskapsläge, efter det att man har valt service-läge, koppla på mottagaren genom att trycka två gånger på TV-knappen och välj service-läge med "i"-knappen.

I service-läge visas service-menyn (som inkluderar justeringens nummer och namn, initialiserings- (vänster) och justeringsvärde (höger)) på bildskärmen.

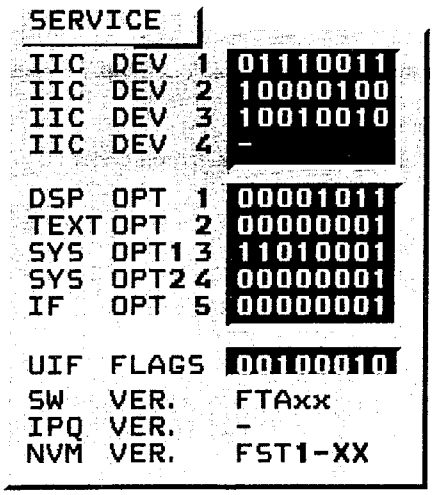
2. Återställ TV:n till normalt användarläge genom att stänga av mottagaren med strömbrytaren.

Konfiguration och felsökning

Apparaten måste alltid konfigureras efter att man gör ingrepp som ändrar dess funktion. När man trycker på den röda färgknappen, när apparaten är i service-läge, kontrollerar prosessorn alla adresser för busstyrda kretsar och visar inställningen på bildskärmen.
Denna funktion kan även användas till felsökning. Om en option bit inte är rätt inställd eller om den inte kan ändras med sifferknapparna, är IC:n möjligtvis defekt eller så är den inte monterad.

Ändring av Option byte

1. Välj konfiguration genom att trycka på den röda färgknappen (när apparaten står i service-läge).



Förklaring
SW VER. = µP programversion.
NVM VER. = NVM programversion.

2. Välj IIC Device byte 1 - 4 eller Option byte 1 - 5 med markörknapparna (upp-/nedåt). Vald byte visas med avvikande färg.
3. Ställ in önskad optionbit med sifferknapparna (0...7).
4. Spara inställningen med OK-knappen.
5. Återgå till service-läge genom att trycka på den röda färgknappen igen.

Optionbyte förklaringar

Bit	Förklaring	Inställning '1'	'0'
	7 6 5 4 3 2 1 0		
	IIC DEV 1 01110011		
0	TV-tuner	Ja	Nej
1	Dekoder TDA9141 eller 9162	Ja	Nej
4	Avlänkningskontroller TDA9151	Ja	Nej
5	RGB-prosessor TDA4780	Ja	Nej
6	Videoswitch TDA6417	Ja	Nej
7	PIP-kontroller SDA9188	Ja	Nej
	IIC DEV 2 10000100		
0	PIP Tuner	Ja	Nej
2	Megatext SDA5273	Ja	Nej
7	MSP3400 / 3410	Ja	Nej
	IIC DEV 3 10010010		
0	DSP (AR600)	Ja	Nej
1	Subwoofer	Ja	Nej
4	Comb-filter (SVHS-linjen låg)	Ja	Nej
0	DSP (AR602)	Ja	Nej
7	I/O PCF8574 (DW6xx modulen)	Ja	Nej
	DSP OPT 1 01011011		
0-3	Högtalarkonfiguration	Ja	Nej
4	Basdelning	Ja	Nej
6	Förkorrigering för surround DSP	Ja	Nej
	TEXT OPT 00000001		
0	TEXT med yttre RAM	Ja	Nej
2	Flof-text (manuellt)	Ja	Nej
4	Textsynk-läge (manuellt)	Ja	Nej
5	Rullning av flersidor (manuellt)	Ja	Nej
	SYS OPT 1 11110001		
0	Kamera-anslutning (manuellt)	Ja	Nej
3	RGB E1	Ja	Nej
4	NTSC 3.58 MHz	Ja	Nej
5	ACI enabled (manuellt)	Ja	Nej
6	NICAM enabled (manuellt)	Ja	Nej
7	Loudness (manuellt)	Ja	Nej
	SYS OPT 2 00000000		
6	Påslagning till demoläge (manuellt)	Ja	Nej
7	Hotel-TV funktioner (manuellt)	Ja	Nej
	IF OPT 5 00000001		
0	B/G-norm	Ja	Nej
1	I-norm	Ja	Nej
2	D/K-norm	Ja	Nej
3	L/L'-norm	Ja	Nej
5	Baseband	Ja	Nej
7	Endast UHF-tuner	Ja	Nej
	UIF FLAGS 00000001		
4	OEM option	Ja	Nej

Serviceinställningar via IIC-Bus

Fjärrkontrollknappar i Service-Läge

När mottagaren är i service-läge kan man välja normalt TV-läge med TV-knappen och återgå till service-läge med i-knappen. Siffer- och markörknappar används till inställningar. Med den gula färgknappen kan man tillfälligt gömma service-menyn. Inställningarna sparas med OK-knappen.

Obs! Drivspänningen U1 måste ställas in till först, före man gör några övriga serviceinställningar.

Inställningar för olika bildformat

Gör först alla inställningar med normalt 4:3-bildformat. TV:n använder dessa inställningar för alla bildformat om inte andra inställningar görs. I varje justering näms det skilt om justeringen måste göras med olika bildformat. Upprepa endast dessa justeringar.

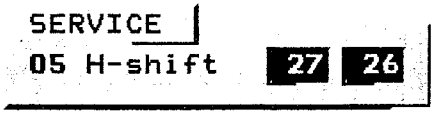
Obs! Bildgeometrijusteringar skall göras med 16:9 bildformat.

Service-inställningar

1. Ge en tvåsiffrig kod, som hänvisar till justeringen i fråga, (t.ex. 05 = horisontal fas, se följande tabeller) med sifferknapparna.

Obs! Justeringen kan också väljas med markörknapparna (upp-/nedåt).

2. Justera med markörknapparna (vänster/höger).



3. Spara inställningen med OK-knappen.

Obs!

- *För att undvika ofullständig inställning bör justeringen sparas i minnet omedelbart efter ändring.*
- *Om justeringen måste göras skilt för olika bildformat, välj normalt användarläge med TV-knappen och ändra bildformatet med zoom-knappen. Återgå till service-läge med "i"-knappen.*

Vertikala bildinställningar

Justering	Kod	OSD-namn	Init. värde	Obs!
Vertikal amplitud	00	V-ampl.	43	Justera bildhöjden rätt.
Vertikal centrering	01	V-shift	3	
Vertikal start	02	V-start	6	
Vertikal S-korrigering	03	S-corr.	27	Separat justering för 4:3 format.
Vertikal amplitud 4:3 zoom (grov)	12	Zoom-H	71	Välj 4:3 zoom bildformat och justera bilden till rätt
Vertikal amplitud 4:3 zoom (fin)	13	Zoom-L	0	förhållande. Separat justering för 60 Hz NTSC-sändning!
Centrering, 4:3 zoom (V-wait)	14	Shift	28	Välj 4:3 zoom bildformat före justering!

Horisontala bildinställningar

Justering	Kod	OSD-namn	Init. värde	Obs!
Bildbredd	04	Width	35	Ställ ljus och kontrast till 10%
Horisontal fas	05	H-shift	27	Skild justering för normal 4:3, 4:3 zoom och fullbild (4:3 zoom och16:9 bildformat; justera endast med en av dessa format)!
Horisontal fas RGB				Gör även justeringen med RGB-signal.
Horisontal fas RGB zoom				
Öst-Väst-parabol	06	Parab.	13	
Öst-Väst hörnkorrigering	07	Corner	0	
Öst-Väst trapetskorrigering	08	Trapez	2	
EHT-kompensering	09	EHT	18	Ställ ljus och kontrast till 90% och kompensera bildstorlek variationer.

Övriga bildinställningar

Justering	Kod	OSD-namn	Init. värde	Obs!
Röd förstärkning	17	R gain	41	Denna procedur är nödvändig när t.ex. bildrör eller
Grön förstärkning	18	G gain	32	CRT-modul är utbytt. Anslut en testbild och ställ in
Blå förstärkning	19	B gain	32	R-, G- och B-referens. Ställ därefter in R-, G- och B-förstärkning.
Röd referens	20	R ref.	52	
Grön referens	21	G ref.	21	
Blå referens	22	B ref.	16	
Låsningsnivå	11	Clamp	0	Normalt krävs ingen justering.
Vitbegränsning	23	PWL	63	Normalt krävs ingen justering.
Gamma korrigering	24	GAMMA	32	Normalt krävs ingen justering.
Tuner AGC	25	TV AGC	170	Anslut en 1 mV (60 dBµV) testsignal.

Serviceinställningar

O Nätdelen

Drivspänning (U1) och skyddskrets

1. Ställ ljus och kontrast till normal nivå. Anslut en universal voltmätare till katoden på Do11.

2. Justera, med Po1, DC-spänningen (U1) till +155 V (±1 V / 132 V (Vi 24")).

3. Kontrollera överströmsskyddet funktion efter serviceingrepp på nätdelens primärsida. Ställ mottagaren i beredskapsläge. Kortslut dioden Do13:ns katod till jord och håll kortslutningen på plats. Fungerar överströmskyddet, stängs nätdelen omedelbart av. Ta bort kortslutningen och slå på apparaten med huvudströmbrytaren.

K Horisontalavlänknings blocket

Fokus

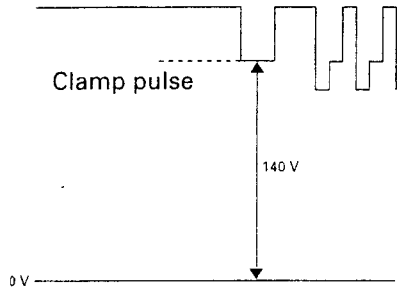
Ställ ljus till normal nivå och kontrast till hög nivå. Använd en testbild med rutmönster och justera bilden för maximum skärpa.

Skärmgallerspänning Ug2

1. Ställ kontrast i minimum, ljus och färgmättnad till normal nivå.

2. Efter vertikalsläckning finns en svartnivå mätpuls. Mät med ett oscilloskop på ICh1 stift 9, 12 och 15. Kontrollera vilket steg som har den högsta svartnivån (högsta spänningen på svartnivå mätpulsen).

3. Justera med Ug2 spänningen till +140 V.



Obs! Justera spänningen med låsningspulsen (Clamp puls).

LL Bild och ljud MF-modulen

Videodemodulatorn

1. Anslut en testsignal (1 mV = 60 dBµV).

2. Anslut en universal voltmätare till modulkontakten X1 stift 6.

3. Justera, med LL6, DC-spänningen till punkten där den växlar från 0 till 5 V.

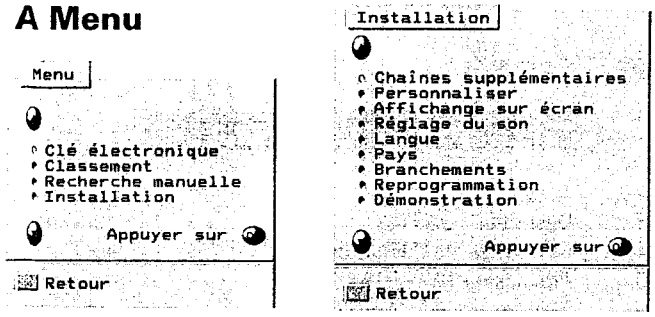
Ljud demodulatorn

1. Anslut en CCIR B/G-norms (FM-modulerat ljud) testsignal.

2. Anslut en universalvoltmätare till ICL1 stift 13.

3. Justera, med LL1, DC-spänningen till +2,7 V.

A Menu



Sélection de la langue

1. Appuyez sur la touche MENU.
2. Sélectionnez "Installation" à l'aide de la touche curseur (vers le haut ou vers le bas) et appuyez sur la touche OK.
3. Sélectionnez "Langue" et appuyez sur la touche OK.
4. Sélectionnez la langue souhaité et appuyez sur la touche OK.
5. Appuyez sur la touche TV.

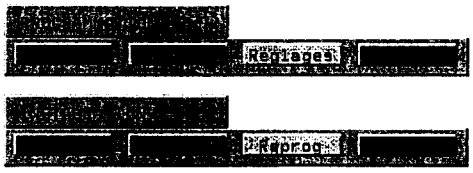
Recherche manuelle

1. Sélectionnez le numéro que vous souhaitez régler.
2. Appuyez sur la touche MENU.
3. Sélectionnez "Recherche manuelle" et appuyez sur la touche OK.
4. Commencez la recherche de chaîne en appuyant sur la touche rouge.
5. Memorisez en appuyant sur la touche OK.
6. Revenez en mode réception TV normale en appuyant sur la touche TV.

APSi

1. Appuyez sur la touche MENU.
2. Sélectionnez "Installation" et appuyez sur la touche OK.
3. Sélectionnez "Reprogrammation" et appuyez sur la touche OK.
4. Commencez la recherche de chaînes en appuyant sur la touche OK.
5. Revenez en mode réception TV normale en appuyant sur la touche TV.

B Menu



Sélection de la langue

1. Appuyez sur la touche PRG.
2. Sélectionnez Install. en appuyant sur la touche bleue.
3. Sélectionnez Langue en appuyant sur la touche rouge.
4. Sélectionnez la langue souhaité à l'aide de la touche curseur (vers le haut ou vers le bas) et appuyez sur la touche OK.
5. Appuyez sur la touche TV.

Recherche manuelle

1. Appuyez sur la touche PRG.
2. Appuyez sur la touche rouge (Syntonis.).
3. Appuyez sur la touche rouge (Recherche).
4. Sélectionnez le numéro de programme sur lequel cette chaine doit être mémorisée.
5. Appuyez sur la touche bleue (Mémorise).
6. Revenez en mode réception TV normale en appuyant sur la touche TV.

APSi

1. Appuyez sur la touche PRG.
2. Appuyez sur la touche bleue (Install.).
3. Appuyez sur la touche jaune (Reprog).
4. Appuyez sur la touche rouge (APSi).
5. Appuyez sur la touche verte (Reprog).
6. Appuyez sur la touche bleue (OK) pour quitter.

NVRAM (ICf2)

Installation de la NVRAM

Si la mémoire NVRAM est remplacée ou si elle a perdu la totalité de ses données, elle doit être initialisée et configurée. Dans la procédure suivante, on considère que le téléviseur ne démarre pas du tout en raison de la présence de données erronées dans la NVRAM.

1. Définissez le récepteur en mode service: Après avoir mis en marche votre récepteur à l'aide de l'interrupteur principal, vous devez appuyer successivement, dans les cinq secondes, sur les touches MENU, TV et "i" de la télécommande.
   Remarque! Le récepteur est en mode service même si rienne s'affiche à l'écran!
2. Appuyez sur le bouton rouge pour préconfigurer le téléviseur. Le voyant vert clignote alors une fois.

3a En même temps, le contrôleur vérifie la NVRAM et l'initialise automatiquement si elle était "vide". L'initialisation prend environ 15 secondes. Lorsqu'elle est terminée, le voyant vert s'allume. Passez à l'étape 4.

3b Si le voyant vert ne s'allume pas, l'initialisation automatique n'a pas eu lieu. Dans certains cas, le voyant peut aussi s'allumer immédiatement après la configuration sans qu'il y ait initialisation, selon le contenu de la mémoire NVRAM. Dans ce cas, l'enregistrement de la nouvelle configuration à l'aide de la touche "OK" et le passage à l'étape 4 peuvent suffire.

3c Si l'initialisation automatique n'a pas eu lieu, vous pouvez la lancer manuellement en entrant le code clé : bleue, 2, 5 et 4. L'initialisation prendra environ 15 secondes.

4. Eteignez votre récepteur.
5. Définissez le récepteur en mode service: Après avoir mis en marche votre récepteur à l'aide de l'interrupteur principal, vous devez appuyer successivement, dans les cinq secondes, sur les touches MENU, TV et "i" de la télécommande. S'il reste en mode veille, appuyez deux fois sur le bouton TV et ensuite sur le bouton i".
6. Configurez le en appuyant sur le bouton rouge. Un menu de configuration apparaitra.
7. Appuyez sur le bouton OK.
8. Appuyez sur la touche TV et effectuez le réglage d'un ou de plusieurs canaux de télévision.
9. Revenez au mode de service en appuyant sur la touche "i".
10. Effectuez ensuite tous les réglages de service (voir le chapitre "Reglages de service au moyen du bus IIC").
11. L'installation est terminée. Vous pouvez, maintenant, éteindre votre récepteur.

Réglages de service

Sélection du mode service

1. Le récepteur est mis en mode service lors de sa mise en marche à l'aide de l'interrupteur principal et en appuyant successivement dans les cinq secondes sur les touches MENU, TV, et "i" de la télécommande.

***Remarque!** Si le récepteur reste en mode veille après avoir sélectionné le mode service, allumez-le en appuyant deux fois sur la touche TV et sélectionnez le mode service en appuyant sur la touche "i".*

En mode service, un menu de réglages (comprenant le numéro et le nom du réglage, les valeurs d'initialisation (gauche) et de réglages (droite)) s'affiche à l'écran.

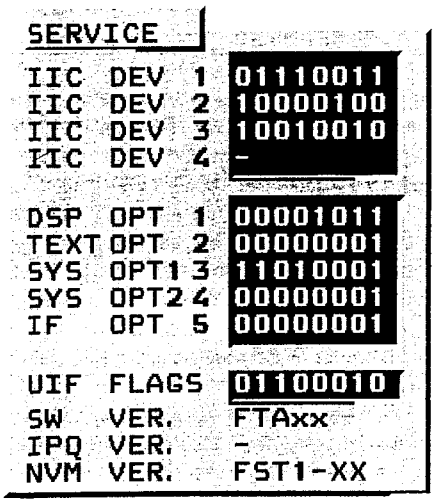
2. Sortez du mode service en éteignant le récepteur à l'aide de l'interrupteur principal.

Configuration et diagnostic des défauts

L'appareil doit être configuré après ajoût ou suppression de certaines options. En appuyant sur la touche rouge en mode service, le processeur vérifie toutes les adresses possibles des circuits conduisant au bus et affiche les réglages à l'écran. Cette propriété peut également être utilisée lors de la recherche d'un défaut ; si un bit d'option n'est pas "1" lorsqu'il le faudrait ou s'il n'est pas possible de le mettre sur "1" en utilisant les touches numérotées, le IC est, soit absent, soit défectueux.

Changement des octets d'option

1. En mode service, sélectionnez le mode configuration en appuyant sur la touche rouge.



Description
SW VER. = version du programme µP
NVM VER. = version du programme du NVM.

2. Sélectionnez l'octet 1 - 4 du système IIC ou l'octet d'option 1 - 5 avec les touches curseurs (vers le haut ou vers le bas). Sélectionnez l'octet apparaissant en lumière brillante.
3. Placez les bits à l'aide des touches numérotées (0 ... 7).
4. Mémorisez les réglages en appuyant sur la touche OK.
5. Repassez en mode service en appuyant à nouveau sur la touche rouge.

Descriptions des octets d'option

Bit	Description	Present 7 6 5 4 3 2 1 0	'1'	'0'
	IIC DEV 1	**01110011**		
0	Tuner TV		oui	non
1	Décodeur TDA9141		oui	non
4	Contrôleur de déviation TDA9151		oui	non
5	Processeur RVB TDA4780		oui	non
6	Matrice vidéo TDA6417		oui	non
7	Contrôleur PIP SDA9188		oui	non
	IIC DEV 2	**10000100**		
0	Tuner PIP		oui	non
2	Mégatexte SDA5273		oui	non
7	MSP3400 / 3410		oui	non
	IIC DEV 3	**10010010**		
0	DSP (AR600)		oui	non
1	Boomer		oui	non
4	Filtre en peigne (basse ligne SVHS)		oui	non
6	DSP (AR602)		oui	non
7	I/O PCF8574 (DW6xx)		oui	non
	DSP OPT 1	**01011011**		
0-3	Configuration des haut-parleurs (passez en mode utilisateur)		oui	non
4	Fractionnement des basses		oui	non
6	Pré-égalisation des Surround-DSP		oui	non
	TEXT OPT 2	**00000001**		
0	TXT grâce au RAM externe		oui	non
2	Flof-text (manual)		oui	non
4	TXT accrochage mode (manuel)		oui	non
5	TXT souspage défilement (manuel)		oui	non
	SYS OPT 1	**11110001**		
0	Prise pour caméra installée (manual)		oui	non
3	RGB E1		oui	non
4	NTSC 3.58 MHz		oui	non
5	ACI enabled (manual)		oui	non
6	NICAM possible (manual)		oui	non
7	Loudness (manual)		oui	non
	SYS OPT 2	**00000000**		
6	Démarrage TV mode demo (manuel)		oui	non
7	Hotel TV function possible (manuel)		oui	non
	IF OPT 5	**00000001**		
0	Système B/G		oui	non
1	Système I		oui	non
2	Système D/K		oui	non
3	Système L/L'		oui	non
5	Bande de base		oui	non
7	Uniquement tuner UHF		oui	non
	UIF FLAGS	**00000001**		
4	OEM option		oui	non

Réglages de service au moyen du Bus IIC

Les touches de la télécommande en mode service.
Lorsque le récepteur est en mode service, vous pouvez sélectionner le mode TV normale en appuyant sur la touche TV et repasser en mode service en appuyant sur la touche "i". Les touches curseurs et numérotées sont utilisées pour réaliser les réglages de service. La touche jaune dissimule temporairement le menu service. La touche OK permet de mémoriser les réglages.

***Attention!** Controler le réglage d'U1 avant i'équilibrage.*

Réglages pour les différents formats d'image
Réalisez d'abord tous les réglages en format d'image normale 4:3. Le téléviseur utilise ces valeurs de réglages pour tous les formats d'image si aucun autre réglage n'a été réalisé. Pour chaque réglage, il est précisé si le réglage doit être fait séparément pour les différents formats d'image, répétez seulement ces réglages.

***Remarque** ! Le reglage de la geometrie doit être effectue avec une image en format 16:9.*

Réalisation des réglages de service
1. Donnez un code à deux chiffres permettant de définir le réglage à l'aide des touches numérotées. (ex. 05 = phase horizontale, consultez les tableaux suivants)

***Remarque** ! Les réglages peuvent être également sélectionnés grâce aux touches curseurs (vers le haut / vers le bas).*

2. Effectuez le réglage avec les touches curseurs (gauche/ droite).

3. Mémorisez la nouvelle valeur en appuyant sur la touche OK.

***Remarque** !*
- *Pour éviter des réglages incomplets, mémorisez immédiatement chaque réglage après l'avoir réalisé.*
- *Si le réglage doit être fait séparément pour les différents formats d'image, sélectionnez le mode normal d'utilisation en appuyant sur la touche TV et changez le format d'image grâce à la touche zoom. Repassez en mode service en appuyant sur la touche "i".*

Réglages de l'image verticale

Réglage	Code	Nom OSD	Valeur Init.	Remarque!
Amplitude verticale	00	V-ampl.	43	Réglez la hauteur de l'image selon une proportion correcte.
Décentrage verticale	01	V-shift	3	
Balayage verticale	02	V-start	6	
Correction S verticale	03	S-corr.	27	Réglages séparés pour format d'image 4:3.
Dent de scie verticale zoom 4:3 (grossière)	12	Zoom-H	71	Sélectionnez le format d'image zoom 4:3 et réglez
Dent de scie verticale zoom 4:3 (précise)	13	Zoom-L	0	l'image selon une proportion correcte. Reglage séparé pour une transmission 60 Hz NTSC!
Valeur de centre, déplacement zoom 4:3 (attendre V)	14	Shift	28	Avant tout réglage, sélectionnez le format d'image zoom 4:3!

Réglages horisontaux d'image

Réglage	Code	Nom OSD	Valeur Init.	Remarque!
Largeur E-W	04	Width	35	Portez la lumiére et le contraste à 10%
Phase horizontale	05	H-shift	27	Réglages séparés pour format d'image normal 4:3, zoom 4:3 et les formats plein écran (zoom 4:3 ou16:9 ; régler seulement un des formats)!
Phase H RGB Phase H RGB zoom				De plus, faîtes les mêmes réglages en utilisant le signal RGB.
Parabole E-W	06	Parab.	13	
Coin E-W	07	Corner	0	
Déformation trapézoïdale EW	08	Trapez	2	
Compensation EHT	09	EHT	18	Portez la lumiére et le contraste à 90% et compensez le changement dans la taille de l'image.

Autres réglages

Réglages	Code	Nom OSD	Valeur init.	Remarque!
Amplification rouge	17	R gain	41	Remarque! La procédure est nécessaire lorsque, par
Amplification vert	18	G gain	32	example, le tube image ou le module CRT a été
Amplification bleu	19	B gain	32	remplacé. Appliquez une mire et réglez les références R, G et B. Réglez ensuite les gains R, G et B.
Référence rouge	20	R ref.	52	
Référence verte	21	G ref.	21	
Référence bleue	22	B ref.	16	
Déplacement du support	11	Clamp	0	Normalement pas besoin de régler.
Seuil des crêtes de blanc	23	PWL	63	Normalement pas besoin de régler.
Correction gamma	24	GAMMA	32	Normalement pas besoin de régler.
Tuner CAG	25	TV AGC	170	Appliquez un signal test de 1 mV (60 dBµV)

Réglages de service

O Bloc d'alimentation de puissance

Tension d'alimentation (U1) et circuit de protection

1. Placez la lumière et le contraste sur le niveau normal. Branchez un voltmètre à la cathode de Do11.
2. Réglez la tension DC (U1) pour +155 V / 132 V (Vi 24") (± 1 V) sur Po1.
3. Vérifiez le courant de protection. Mettez le récepteur en mode veille. Court-circuitez la cathode de Do13 avec la masse. Lorsque le courant de protection est actif, l'alimentation s'arrêter. Enlevez le court-circuit et éteignez votre récepteur.

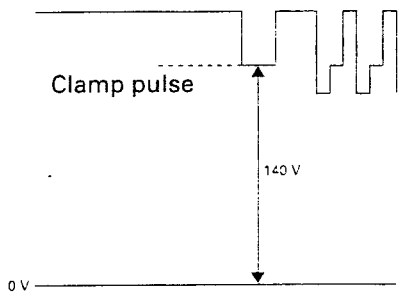
K Bloc de deviation horizontale

Focalisation

Placez la lumière sur le niveau normal et le contraste sur le niveau élevé. Utilisez la mire et réglez l'image pour obtenir une mire excellente.

Tension de G2

1. Placez le contraste sur le minimum, la saturation de lumière et de couleur sur le niveau normal.
2. Utilisez un oscilloscope et contrôlez le niveau du palier arrière du niveau de noir (avant l'information vidéo) aux bornes 9, 12 et 15 de ICh1.
3. Réglez, à l'aide du potentiomètre de Ug2, le niveau du palier arrière le plus haut à +140 V sur Ug2 (consultez le dessin).



Remarque ! *Réglez la tension avec le clamp.*

LL Module IF du son et de l'image

Démodulateur vidéo

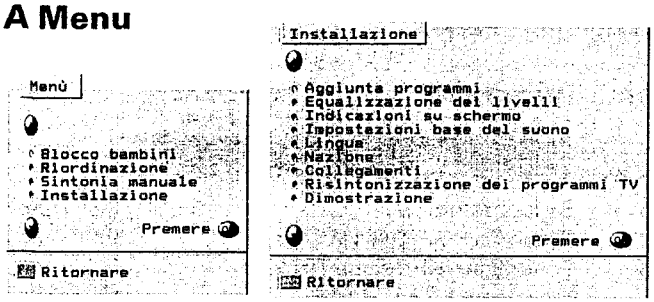
1. Appliquez un signal test (1 mV = 60dBµV).
2. Branchez un voltmètre à la borne 6 de la prise du module X1.
3. Réglez la tension DC avec LL6 sur le point où il change de 0 à 5 V.

Démodulateur du son

1. Appliquez un signal test de la norme CCIR B/G (son modulé FM).
2. Branchez un voltmètre à la borne 13 de ICL1.
3. Réglez la tension DC avec le LL1 pour obtenir +2.7 V.

Instruzioni l'uso

A Menu



Selezione della lingua

1. Premere il tasto MENU.
2. Selezionare "Installazione" tramite il tasto cursore (su/giù) e premere il tasto OK.
3. Selezionare "Lingua" e premere il tasto OK.
4. Selezionare la lingua desiderato e premere il tasto OK.
5. Premere il tasto TV.

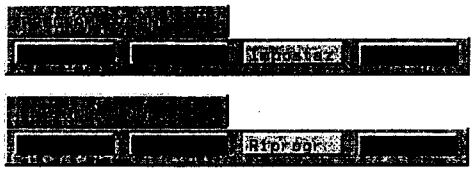
Sintonia manuale

1. Selezionare il numero programma che si desidera sintonizzare.
2. Premere il tasto MENU.
3. Selezionare "Sintonia manuale" e premere il tasto OK.
4. Avviare la ricerca canali premendo il tasto rosso.
5. Memorizzare le impostazioni premendo il tasto OK.
6. Ritornare alla normale ricezione TV premendo il tasto TV.

APSi

1. Premere il tasto MENU.
2. Selezionare "Installazione" e premere il tasto OK.
3. Selezionare "Risintonizzazione" dei programmi TV e premere il tasto OK.
4. Avviare la ricerca canali premendo il tasto rosso.
5. Ritornare alla normale ricezione TV premendo il tasto TV.

B Menu



Selezione della lingua

1. Premere il tasto PRG.
2. Premere il tasto azzurro per selezionare Install.
3. Premere il tasto rosso per selezionare Lingua (Language).
4. Selezionare la lingua desiderato tramite il tasto cursore (su/giù) e premere il tasto OK.
5. Premere il tasto TV.

Sintonia manuale

1. Premere il tasto PRG.
2. Premere il tasto rosso (Sintonia).
3. Premere il tasto rosso (Ricerca).
4. Selezionare il numero del programma.
5. Premere il tasto azzurro (Memoria).
6. Ritornare alla normale ricezione TV premendo il tasto TV.

APSi

1. Premere il tasto PRG.
2. Premere il tasto azzurro (Install.).
3. Premere il tasto giallo (Riprog.).
4. Premere il tasto rosso (APSi).
5. Premere il tasto verde (Riprog.).
6. Premere il tasto azzurro (OK) per uscire.

NVRAM (ICf2)

Installazione della NVRAM

La memoria NVRAM deve essere inizializzata e configurata nel caso in cui venga sostituita oppure tutti i dati in essa contenuti siano andati perduti. La procedura di seguito riportata presume che l'apparecchio TV non si avvii affatto a causa di dati errati presenti nella memoria NVRAM.

1. Portare l'apparecchio in modo di servizio accendendolo con l'interruttore di rete ed, entro 5 secondi, premendo i tasti "MENU" "TV" e "i" in sequenza.
   Nota: Il televisore è in modo servizio anche se sembra essere in stand-by.
2. Premere il tasto rosso per preconfigurare l'apparecchio TV. Al termine della preconfigurazione, l'indicatore verde lampeggerà una volta.

3a Contemporaneamente l'unità di controllo verificherà la memoria NVRAM e la inizializzerà automaticamente qualora risulti "vuota". La procedura di inizializzazione durerà circa 15 secondi. Una volta terminata tale procedura, si accenderà l'indicatore verde.
Proseguire con il punto 4.

3b Se l'indicatore verde non si accende a luce fissa, l'inizializzazione automatica non ha avuto luogo. In alcuni casi, l'indicatore verde potrebbe anche accendersi subito dopo la configurazione, senza che abbia avuto luogo alcuna procedura di inizializzazione, a seconda del contenuto della memoria NVRAM. In tal caso, potrebbe essere sufficiente memorizzare la nuova configurazione premendo il tasto "OK" e proseguire con il punto 4.

3c Se l'inizializzazione automatica non ha avuto luogo, è possibile avviarla automaticamente immettendo il codice chiave, premendo in sequenza i seguenti tasti: azurro, 2, 5 e 4. La procedura di inizializzazione durerà circa 15 secondi.

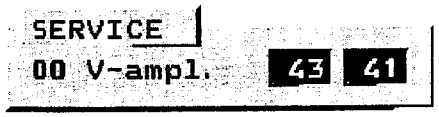
4. Spegnere l'apparecchio tramite l'interruttore di rete.
5. Portare l'apparecchio in modo di servizio accendendolo con l'interruttore di rete ed, entro 5 secondi, premendo i tasti "MENU" "TV" e "i" in sequenza.
   Se l'apparecchio rimane in stand-by premere due volte il tasto TV e poi il tast "i".
6. Configurare l'appareccio premendo il tasto rosso. Sullo schermo apparirà il menu configurazione.
7. Premere il tasto OK.
8 Premere il tasto TV e sintonizzare uno o più canali.
9 Tornare al modo manutenzione premendo il tasto "i".
10. Effettuare tutte le regolazioni di servizio (Vedere "Regolazioni di servizio tramite IIC bus").
11. Spegnere l'apparecchio tramite l'interruttore di rete.

Regolazioni di servizio

Selezione del modo servizio

1. L'impostazione del modo servizio avviene accendendo il ricevitore tramite l'interruttore generale e premendo in sequenza i tasti del telecomando MENU, TV e "i" entro 5 secondi.

Nota: Se il ricevitore rimane in standby dopo aver selezionato il modo servizio, accendere l'apparecchio TV premendo due volte il tasto TV e selezionare il modo servizio premendo il tasto "i".



Quando il ricevitore è in modo servizio, viene visualizzato sullo schermo un menu delle regolazioni (indicante anche il nome ed il numero di ciascuna regolazione, i valori di inizializzazione (sinistra) e regolazione (destra)).

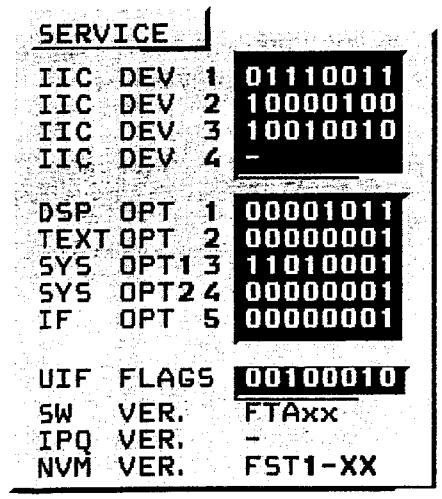
2. Per uscire dal modo servizio, spegnere il ricevitore tramite l'interruttore generale.

Configurazione e diagnostica

L'apparecchio TV deve essere configurato qualora si aggiungano o si eliminino delle opzioni. Premendo il tasto rosso in modo servizio, il processore controlla tutti gli indirizzi possibili dei circuiti con bus e visualizza le impostazioni sullo schermo.
Questa funzione può anche essere utilizzata per la diagnostica; se il bit di un'opzione non è "1" (quando invece dovrebbe esserlo) oppure non è possibile impostarlo su "1" usando i tasti numerici, significa che l'IC non è presente oppure è difettoso.

Modifica dei bit di opzione

1. In modo servizio, selezionare il modo configurazione premendo il tasto rosso.



Descrizione
SW VER. = Versione software µP.
NVM VER. = Versione software NVM.

2. Selezionare IIC Device byte 1 - 4 oppure Option byte 1 - 5 tramite i tasti cursore (su/giù). Il byte selezionato compare evidenziato sullo schermo.
3. Impostare i bit tramite i tasti numerici (da 0 a 7).
4. Memorizzare le impostazioni premendo il tasto OK.
5. Tornare al modo servizio premendo di nuovo il tasto rosso.

Descrizioni dei byte di opzione

Bit	Descrizione	Impostazione 7 6 5 4 3 2 1 0	'1'	'0'
	IIC DEV 1	**01110011**		
0	Sintonizzatore TV		Sì	No
1	Decodificatore TDA9141		Sì	No
4	Controllore deflessione TDA9151		Sì	No
5	Processore RGB TDA4780		Sì	No
6	Interruttore video TDA6417		Sì	No
7	Controllore PIP SDA9188		Sì	No
	IIC DEV 2	**10000100**		
0	Sintonizzatore PIP		Sì	No
2	Megatext SDA5273		Sì	No
7	MSP3400 / 3410		Sì	No
	IIC DEV 3	**10010010**		
0	DSP (AR600)		Sì	No
1	Subwoofer		Sì	No
4	Filtro Comb (SVHS a bassa linea)		Sì	No
6	DSP (AR602)		Sì	No
7	I/O PCF8574 (DW6xx)		Sì	No
	DSP OPT 1	**01011011**		
0-2	Configurazione altoparlanti		Sì	No
4	Sdoppiamento bassi		Sì	No
6-7	Pre-equalizzazione altoparlanti surround DSP		Sì	No
	TEXT OPT 2	**00000001**		
0	TXT con RAM esterna		Sì	No
2	Flof-text (manuale)		Sì	No
4	Modo di sincronizz. televideo (manuale)		Sì	No
5	Scorrimento subpagine (manuale)		Sì	No
	SYS OPT 1	**11110001**		
0	Connettore camera installato (manuale)		Sì	No
3	RGB E1		Sì	No
4	NTSC 3.58 MHz		Sì	No
5	ACI abilitato (manual)		Sì	No
6	NICAM abilitato (manuale)		Sì	No
7	Loudness abilitato (manuale)		Sì	No
	SYS OPT 2	**00000000**		
6	Accensione del TV in modo demo (manuale)		Sì	No
7	Funzioni hotel abilitate (manuale)		Sì	No
	IF OPT 5	**00000001**		
0	Sistema B/G		Sì	No
1	Sistema I		Sì	No
2	Sistema D/K		Sì	No
3	Sistema L/L'		Sì	No
5	Banda base		Sì	No
7	Solo sintonizzatore UHF		Sì	No
	UIF FLAGS	**00000001**		
4	OEM option		Sì	No

Regolazioni di servizio tramite bus IIC

Uso del telecomando nel modo servizio
Quando si è in modo servizio, è possibile passare al normale modo TV premendo il tasto TV sul telecomando ed eventualmente tornare al modo servizio premendo il tasto "i", sempre sul telecomando.
Le regolazioni di servizio vengono effettuate tramite i tasti numerici ed i tasti cursore. Il tasto giallo nasconde temporaneamente il menu di servizio, mentre il tasto OK memorizza le impostazioni.

Attenzione! *Prima di effetuare l'equilibratura, controllare la regolazione U1.*

Regolazione per un diverso formato immagine
Effettuare prima tutte le regolazioni necessarie con il formato immagine 4:3 normale. L'apparecchio TV utilizza questi valori per tutti i formati immagine se non sono state effettuate altre regolazioni. Per ciascuna regolazione viene specificato se deve essere effettuata separatamente per un diverso formato immagine, nel qual caso ripetere soltanto le regolazioni che interessano.

Nota! *Le regolazioni di geometria dell' immagine devono essere effettuate nel formato 16:9.*

Come effettuare le regolazioni di servizio
1. Immettere tramite i tasti numerici il codice a due cifre relativo alla regolazione che si desidera effettuare (ad esempio, 05 = fase orizzontale; fare riferimento alle tabelle di seguito riportate).

Nota: *Le regolazioni possono essere selezionate anche tramite i tasti cursore (su/giù).*

2. Effettuare la regolazione tramite i tasti cursore (destra/ sinistra).

3. Memorizzare i nuovi valori premendo il tasto OK.

Nota:
- *Per evitare regolazioni incomplete, si consiglia di memorizzare ciascuna regolazione immediatamente dopo averla effettuata.*
- *Se una regolazione deve essere effettuata separatamente per un diverso formato immagine, selezionare il normale modo utente premendo il tasto TV e modificare il formato immagine tramite il tasto zoom. Tornare al modo servizio premendo il tasto "i".*

Regolazioni vertacali dell 'immagine

Regolazione	Codice	Display	Valore iniz.	Nota:
Ampiezza verticale	00	V-ampl.	43	Regolare l'altezza dell'immagine sul rapporto corretto.
Spostamento centratura verticale	01	V-shift	3	
Inizio scansione verticale	02	V-start	6	
Correzione-S verticale	03	S-corr.	27	Regolazioni separate per i formati 4:3.
Pendenza verticale 4:3 zoom (approssimata)	12	Zoom-H	71	Selezionare il formato immagine 4:3 zoom e regolare
Pendenza verticale 4:3 zoom (fine)	13	Zoom-L	0	l'immagine sul rapporto corretto. Regolazione separata per le trasmissioni NTSC a 60 Hz!
Valore centratura, spostamento 4:3 zoom (V-wait)	14	Shift	28	Prima di effettuare la regolazione, selezionare il formato immagine 4:3 zoom!

Regolazioni orizzontali dell 'immagine

Regolazione	Codice	Display	Valore iniz.	Nota:
Larghezza EW	04	Width	35	Impostare luminosità e contrasto a 90%
Fase orizzontale	05	H-shift	27	Regolazioni separate per i formati 4:3 normale, 4:3 zoom e tutto schermo (oppure, anziche' tutto schermo, i formati 4:3 zoom o16:9; in questi casi, effettuare le regolazioni con uno solo di questi formati)!
RGB fase orizzontale Zoom RGB fase orizzontale				Inoltre, effettuare le stesse regolazioni usando il segnale RGB.
Parabola EW	06	Parab.	13	
Angolo EW	07	Corner	0	
Trapezoidale EW	08	Trapez	2	
Compensazione EHT	09	EHT	18	Impostare luminosità e contrasto a 90% e modificare di conseguenza la dimensione dell'immagine.

Altre regolazioni

Regolazione	Codice	Display	Valore iniz.	Note!
Guadagno rosso	17	R gain	41	Questa procedura è necessaria quando si ostituisce il cinescopio, il modulo CRT etc! Collegare un segnale test e regolare i riferimenti di R, G e B. Regolare il quadagno di R, G e B.
Guadagno verde	18	G gain	32	
Guadagno blu	19	B gain	32	
Riferimento rosso	20	R ref.	52	
Riferimento verde	21	G ref.	21	
Riferimento blu	22	B ref.	16	
Spostamento aggancio	11	Clamp	0	Regolazione generalmente non necessaria.
Limite picco bianco	23	PWL	63	Regolazione generalmente non necessaria.
Correzione gamma	24	GAMMA	32	Regolazione generalmente non necessaria.
Sintonizzatore AGC	25	TV AGC	170	Applicare un segnale di test 1 mV (60 dBµV).

Regolazioni di servizio

O Blocco alimentatore

Circuito di protezione dell'alimentatore (U1)

1. Regolare la luminosità ed il contrasto sui valori normali. Collegare un voltmetro universale al catodo di Do11.

2. Regolare con Po1 la tensione cc (U1) a +155 V / 132 V (Vi 24") (±1 V).

3. Controllare sempre la protezione alle sovracorrenti dopo aver effettuato qualsiasi operazione di servizio sul circuito primario dell'alimetazione. Per controllarla procedere come segue:
   Portare l'apparecchio in stand-by.
   Cortocircuitare il catodo del Do13 a massa e mantenere il corto circuito. Se la protezione alle sovracorrenti lavora correttamente, l'alimentatore viene bloccato.
   Togliere il corto circuito e accendere l'apparecchio dall'interruttore di rete.

K Blocco deflessione orizzontale

Messa a fuoco

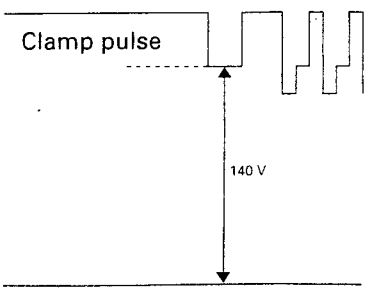
Regolare la luminosità ad un livello normale ed il contrasto ad un livello alto. Utilizzando un quadro di test, regolare l'immagine fino ad ottenere il livello di risoluzione ottimale.

Tensione di griglia schermo, Ug2

1. Regolare il contrasto sul valore minimo e la luminosità e la saturazione colore sui valori normali.

2. Con un oscilloscopio controllare l'ampiezza degli impulsi di aggancio del livello del nero inserito (Inserted black level) per la durata di 3 righe dopo lo spegnimento verticale su ICh1 piedino 9, 12 e 15.

3. Con Ug2 regolare a +140 V l'ampiezza dell'impulso di aggancio più alto (vedere figura).



Nota: *Regolare la tensione con l'impulso di aggancio.*

LL Modulo fi video e audio

Demodulatore video

1. Applicare un segnale di test (1 mV = 60 dBµV).

2. Collegare un voltmetro universale al connettore del modulo X1 piedino 6.

3. Regolare con LL6 la tensione cc fino sul punto in cui passa da 0 a 5 V.

Demodulatore audio

1. Applicare un segnale di test CCIR B/G standard (suono modulato FM).

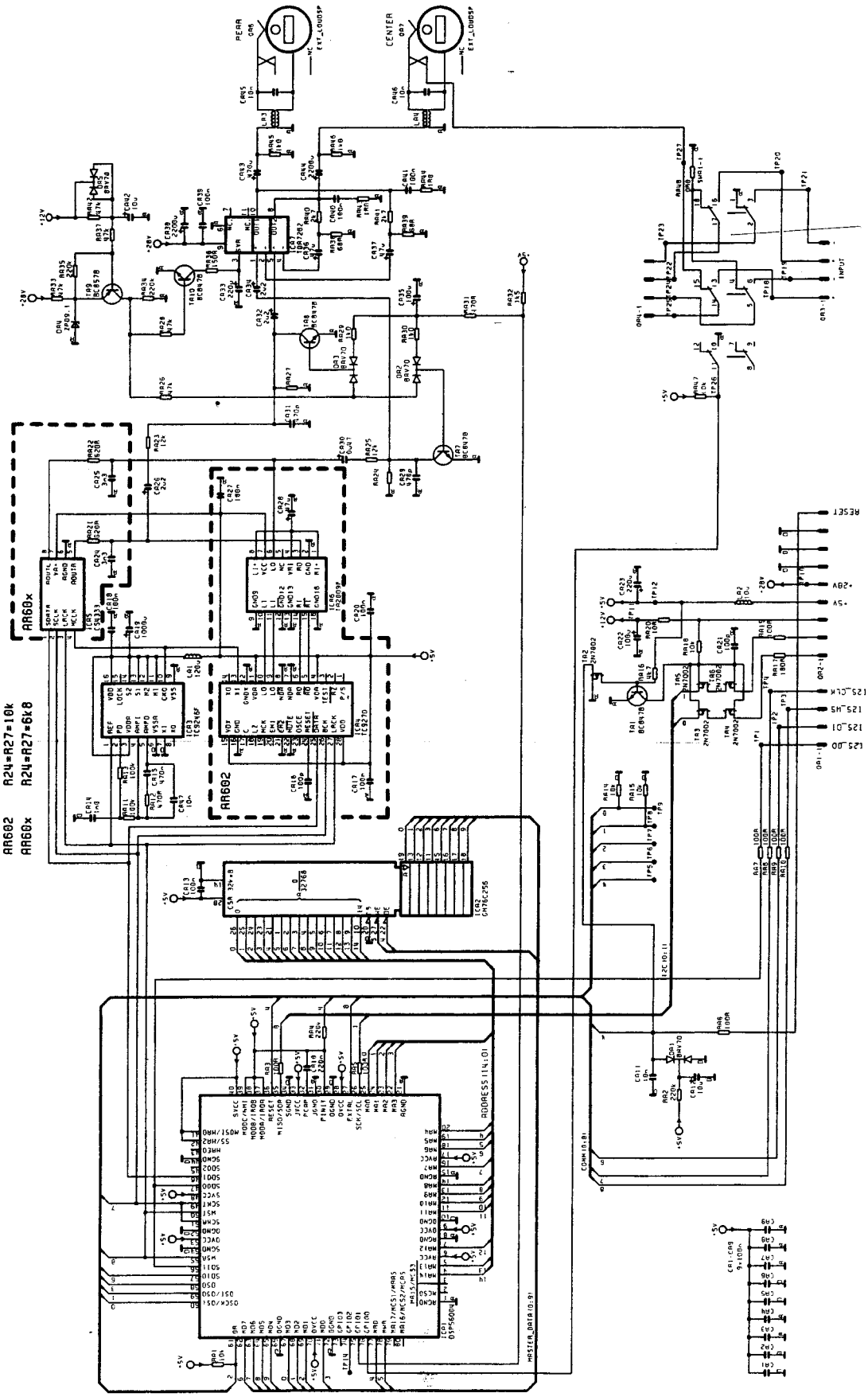
2. Collegare un voltmetro universale a ICL1 piedino 13.

3. Regolare con LL1 la tensione cc a +2,7 V.

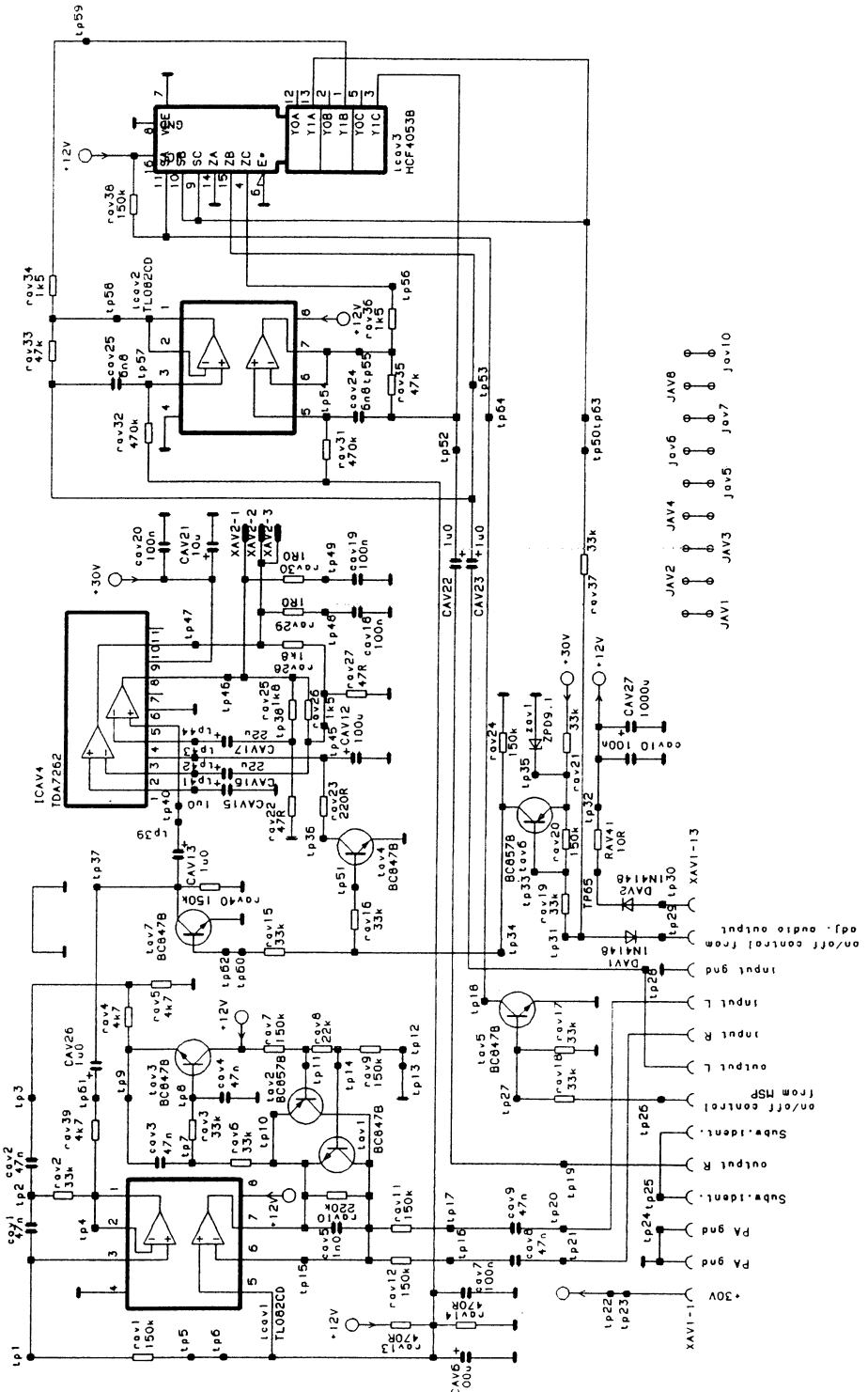
(GB) Variable components AP/AW
(D) Röhrenabhängige bauteile AP/AW
(F) Composant variables AP/AW
(I) Componenti che differiscono AP/AW
(S) Komponentskillnad AP/AW

	Vi 32	VI 28	VI 28	To 24	To 32	Vi 32	Vi 24
	EDL	EDX	EDX	W56LCZ	W76KYR	W76EGX	W56EGV
	013x101	013x001	013x001	693x01	690x01	023x115	023x115
	AP**F	AP**H	AW**H	AW**K	AP**A	AP**P	AW**R
	PW-671	*PW-673*	*PW-673*	*PW-674*	*PW-675*	*PW-676*	*PW-677*
Rk1	47k	47k	47k	47k	47k	100k	100k
Rk3	68k	68k	68k	150k	47k	47k	100k
Rk15	1R2 0,5W	1R2 0,5W	1R2 0,5W	3R0 0,5W	1R5 0,7W	-	-
Rk16	4R7	4R7	4R7	-	4R7	T2A	T2A
Rk52	10R Rad	10R Rad	10R Rad	10R Rad	10R Rad	10R Aks	10R Aks
Rk54	0R47	0R47	0R47	0R47	0R47	0R47 0,5W	0R47 0,5W
Rk57	33k	33k	33k	33k	33k	4k7	4k7
Rk60	-	-	-	-	-	470k	470k
Rk61	-	-	-	-	-	0R1	-
rk44	82k	100k	100k	100k	100k	47k	56k
Rs10	-	-	-	470R	-	-	390R 0,5W
rs 1	1k8	1k8	1k8	1k8	1k8	1k8	1k8
Rs2	1R2	1R2	1R2	0R82 (R2)	0R82	0R82	1R21
Rs3	1R2	1R2	1R2	0R82 (R2)	0R82	1R0	1R21
Rs4	470R	470R	470R	470R	330R 0,5W	560R	390R 0,5W
Rs6	33R 0,5W	33R 0,5W	33R 0,5W	33R 0,5W	33R 0,5W	33R 0,5W	33R 0,5W
Rs8	470R	470R	470R	470R	330R 0,5W	560R	390R 0,5W
rt25	220R	220R	220R	220R	220R	180R	180R
Rt35	-	-	-	-	-	150k	150k
Ck51	1n0	1n0	1n0	1n0	1n0	1n5	1n5
Ck52	9n1	9n1	9n1	10n	9n1	12n	12n
Ck53	27n	27n	27n	27n	27n	47n	47n
Ck54	240n	240n	240n	180n	240n	1u0	1u0
Ck55	120n	120n	120n	120n	120n	220n	220n
Ck57	2U2	2U2	2U2	2U2	2U2	4U7	4u7
Ck58	470n	470n	470n	470n	470n	470n	470n
Ck60	-	-	-	-	-	680n	680n
Ck61	-	-	-	-	-	100u	-
Ck62	-	-	-	-	-	330p	-
Ck63	-	-	-	-	-	1000u	1000u
ck73	100p	100p	100p	100p	100p	1n5	1n5
TRK1	Eldor	Eldor	Eldor	Eldor	Eldor	EL9009B	EL9009B
XS2	yes	yes	-	-	yes	yes	-
TRO1	FM3602B	FM3602B	FM3602B	FM3602B	FM3602B	FM3603	FM3603
dZk4	BZX849V1	BZX849V1	BZX849V1	BZX849V1	BZX849V1	BZXB12V	BZX12V
Dzk5	-	-	-	-	-	BZX7915	BZX7915
Dk10	-	-	-	-	-	1N4148	1N4148
Dk9	-	-	-	-	-	1N4937	-
Ro41	100k	100k	100k	100k	100k	86,6k	82k5
Ro71	2R7 1,5W	2R7 1,5W	2R7 1,5W	2R7 1,5W	2R7 1,5W	10R 2W	10R 2W
Lk52	5920903700	5920903700	5920903700	5920903700	5920902000	5920903700	5920903700
Lk53						9mH	9mH
J 44	jumper 10,0	jumper 10,0			jumper 10,0	jumper 10,0	jumper 10,0
J 1,51	jumper 7,5	jumper 7,5	coil 3.5x9	coil 3.5x9	jumper 7,5	jumper 7,5	jumper 7,5
J 84	-	-	-	-	-	no	no
J 108	-	-	-	-	-	no	no
J 350	-	-	-	-	-	no	yes
J 351	-	-	-	-	-	yes	yes
J 143	-	-	-	-	-	yes	no
foliop.	-	-	jumper 20,0	jumper 20,0	-	-	-
Cancellor	X	X	X	-	X	X	-
fok.bl.	-	temic 667	temic 667	temic 667	-	-	temic 831
FO670	X	-	-	-	X	X	-
FO602	-	-	-	-	X	-	-
CRT-Base modul HH6**	HH653	HH654	HH654	HH657	HH656	HH655	HH654
U3	14V	14V	14V	14V	14V	17V	17V
GND	2,8mm	2,8mm	2,8mm	2,8mm	-	2,8mm	-
200V	-	-	-	-	lattal.2,8mm	-	-
U1	155V	155V	155V	155V	155V	135V	132V

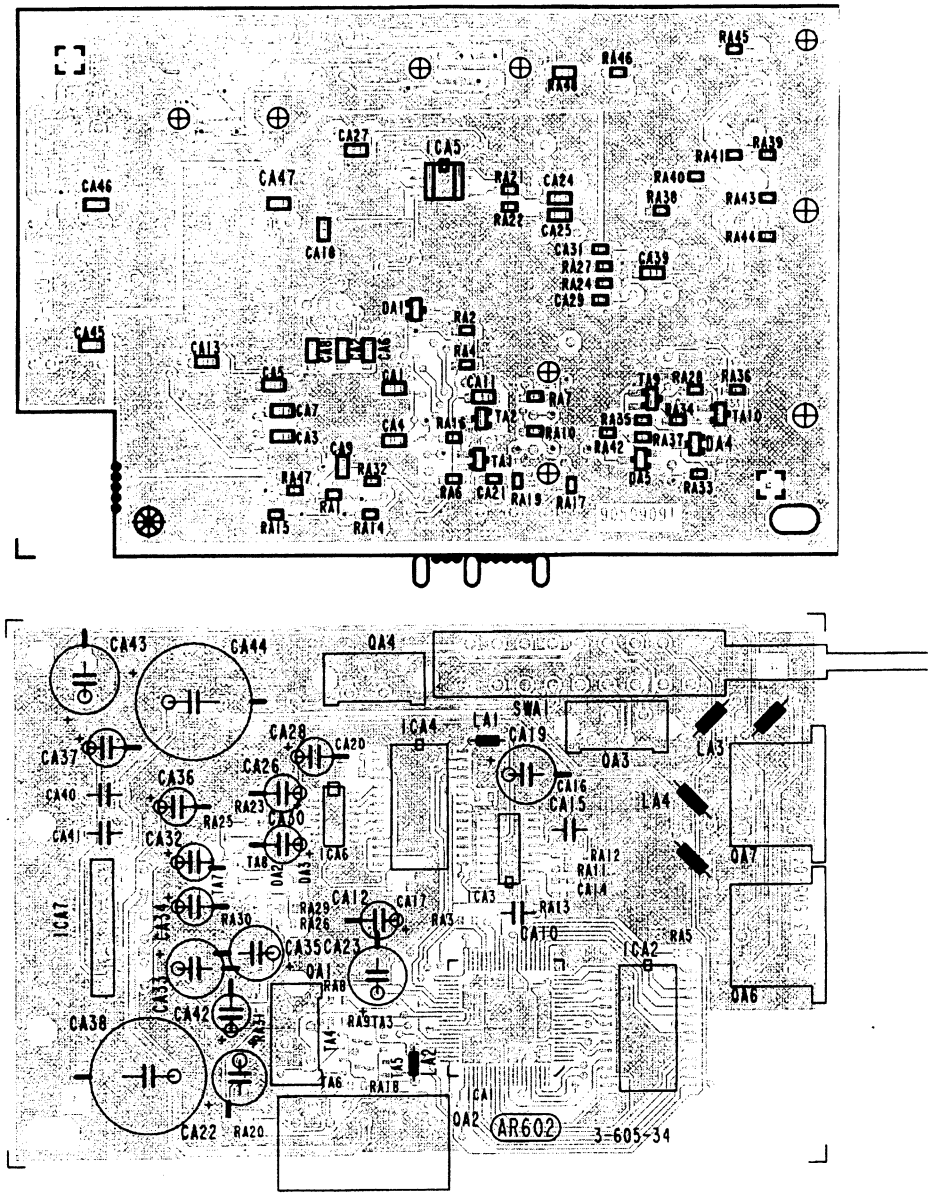
AR602 Surround module



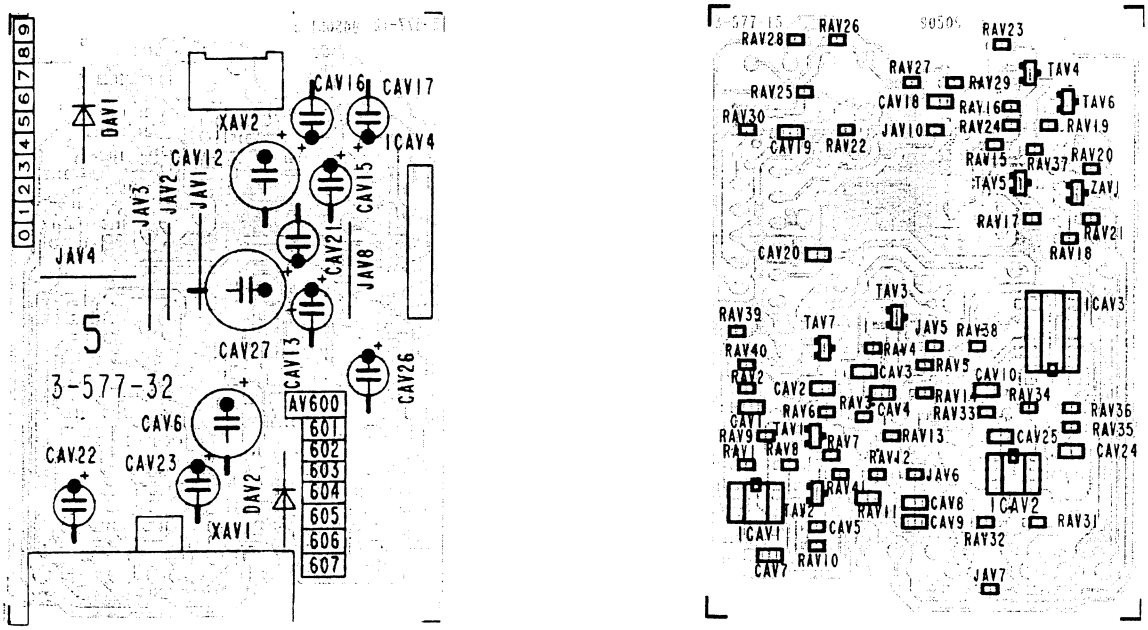
AV601 Subwoofer module



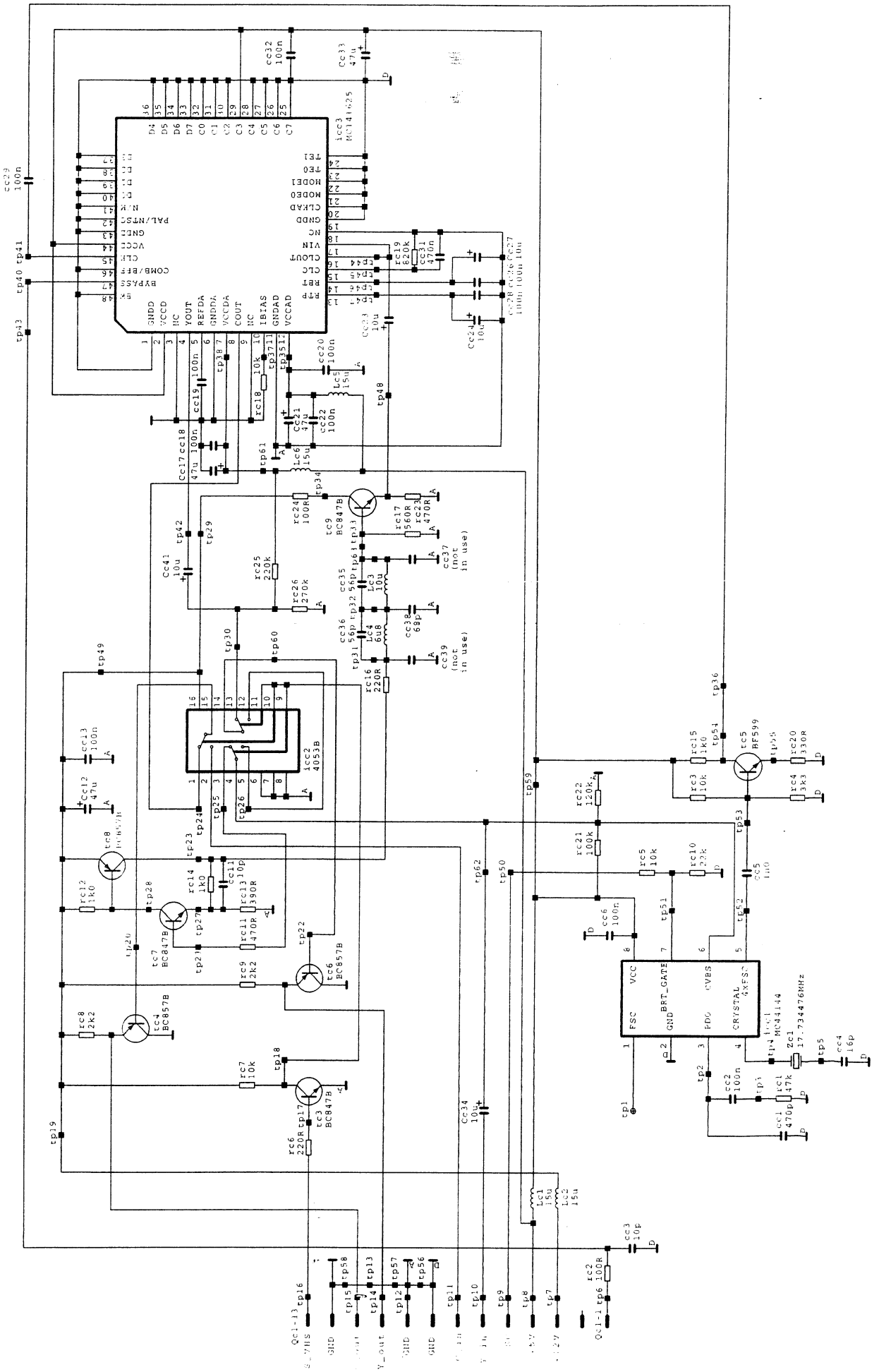
AR602 Surround module



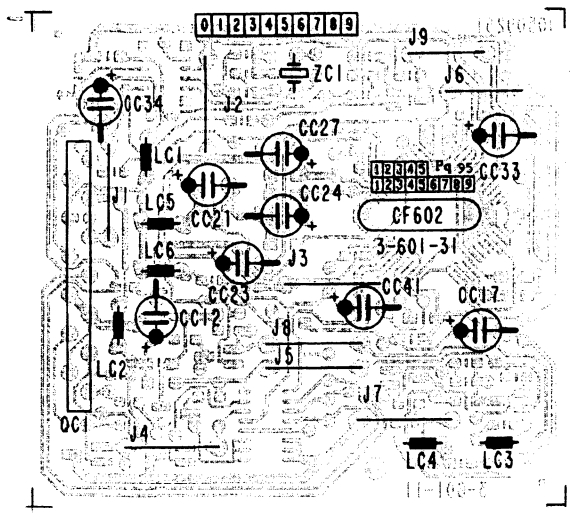
AV601 Subwoofer module

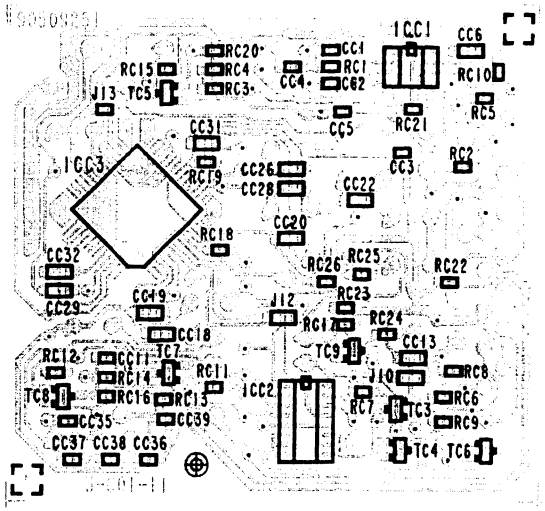


CF602 Combfilter module

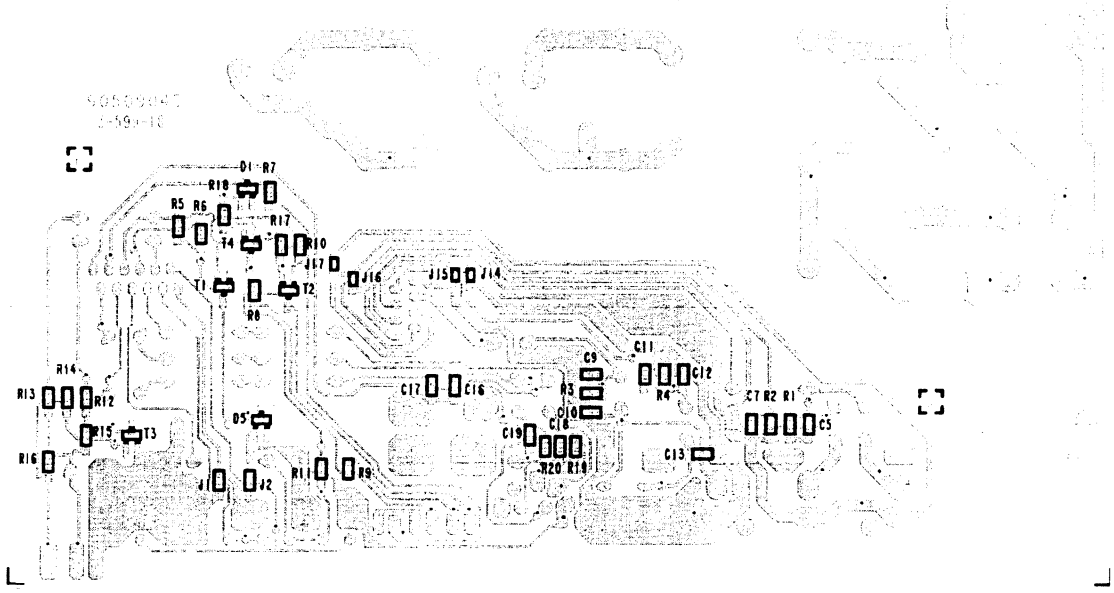


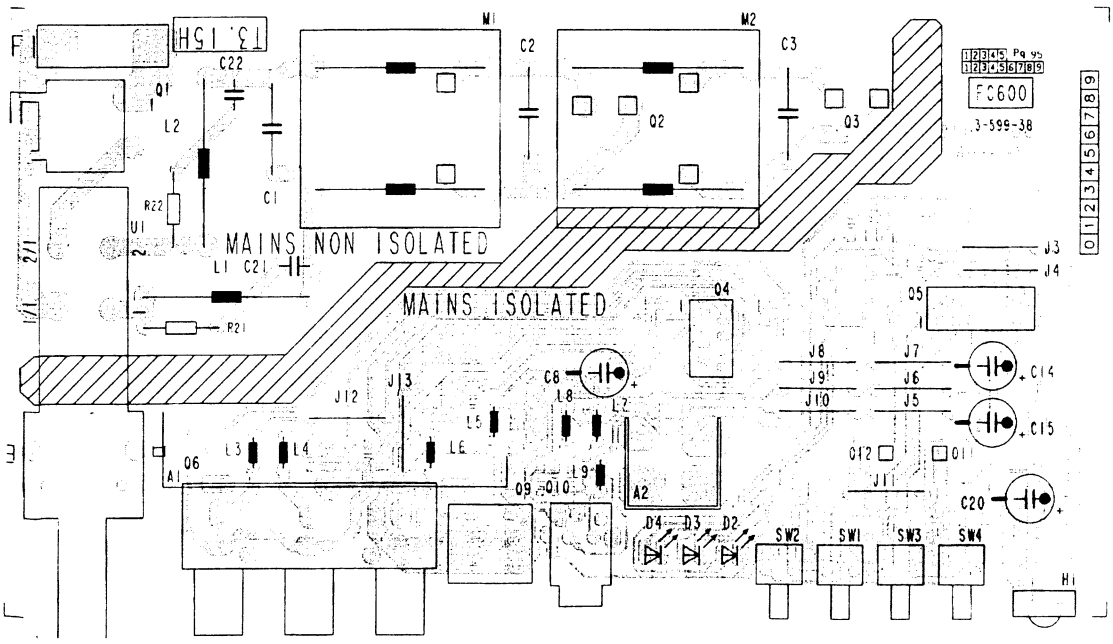
CF602 Combfilter module



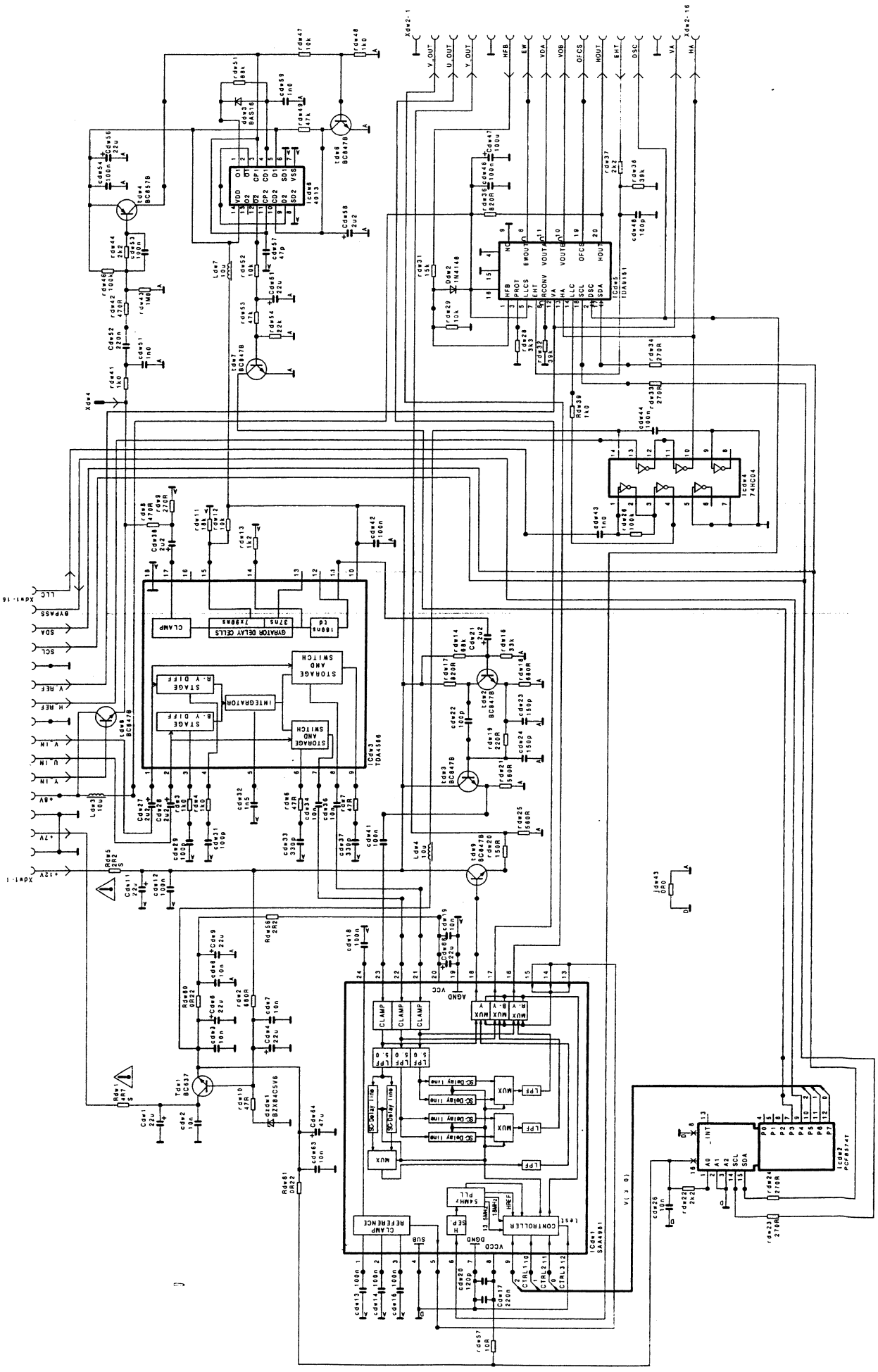


FC600 Control module

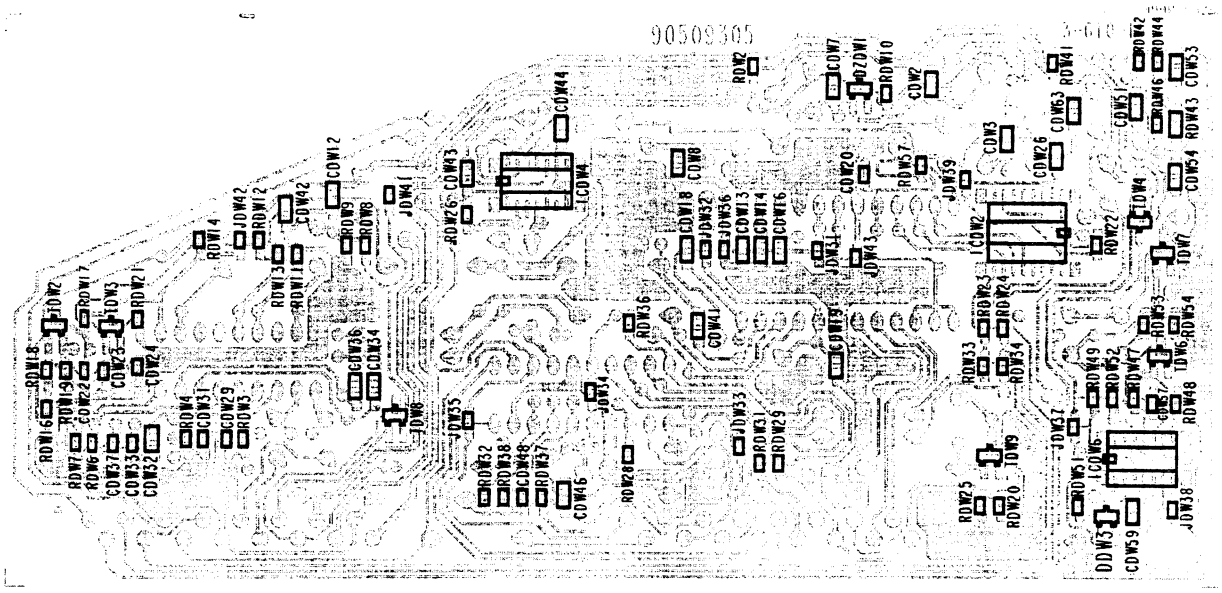


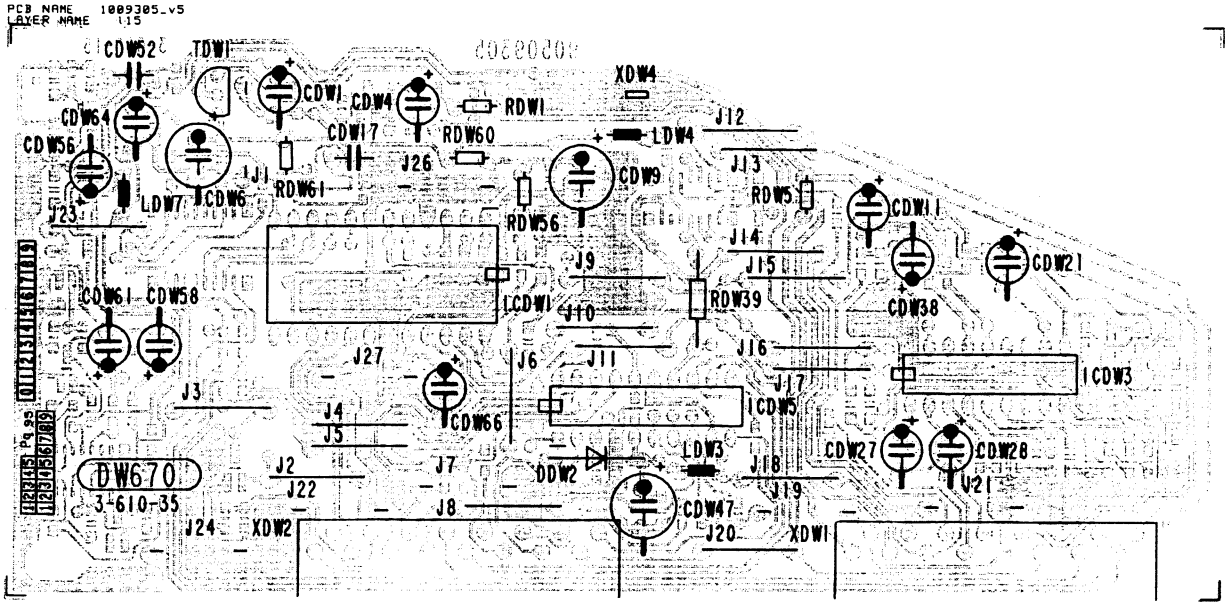


DW670 Line compressor module

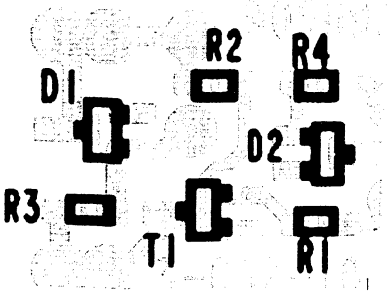


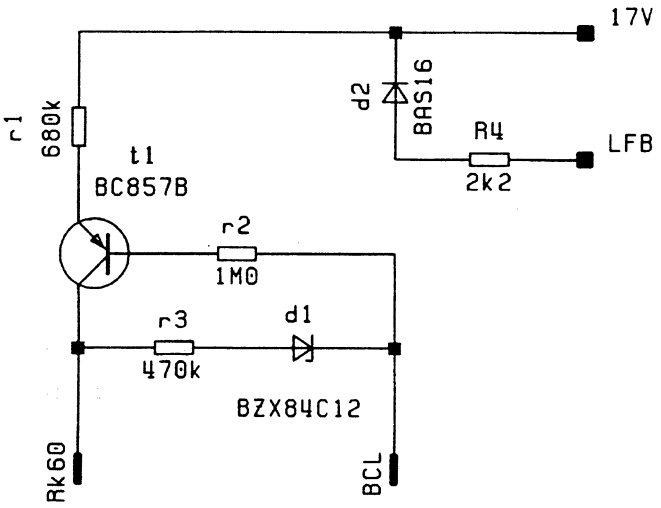
DW670 Line compressor module



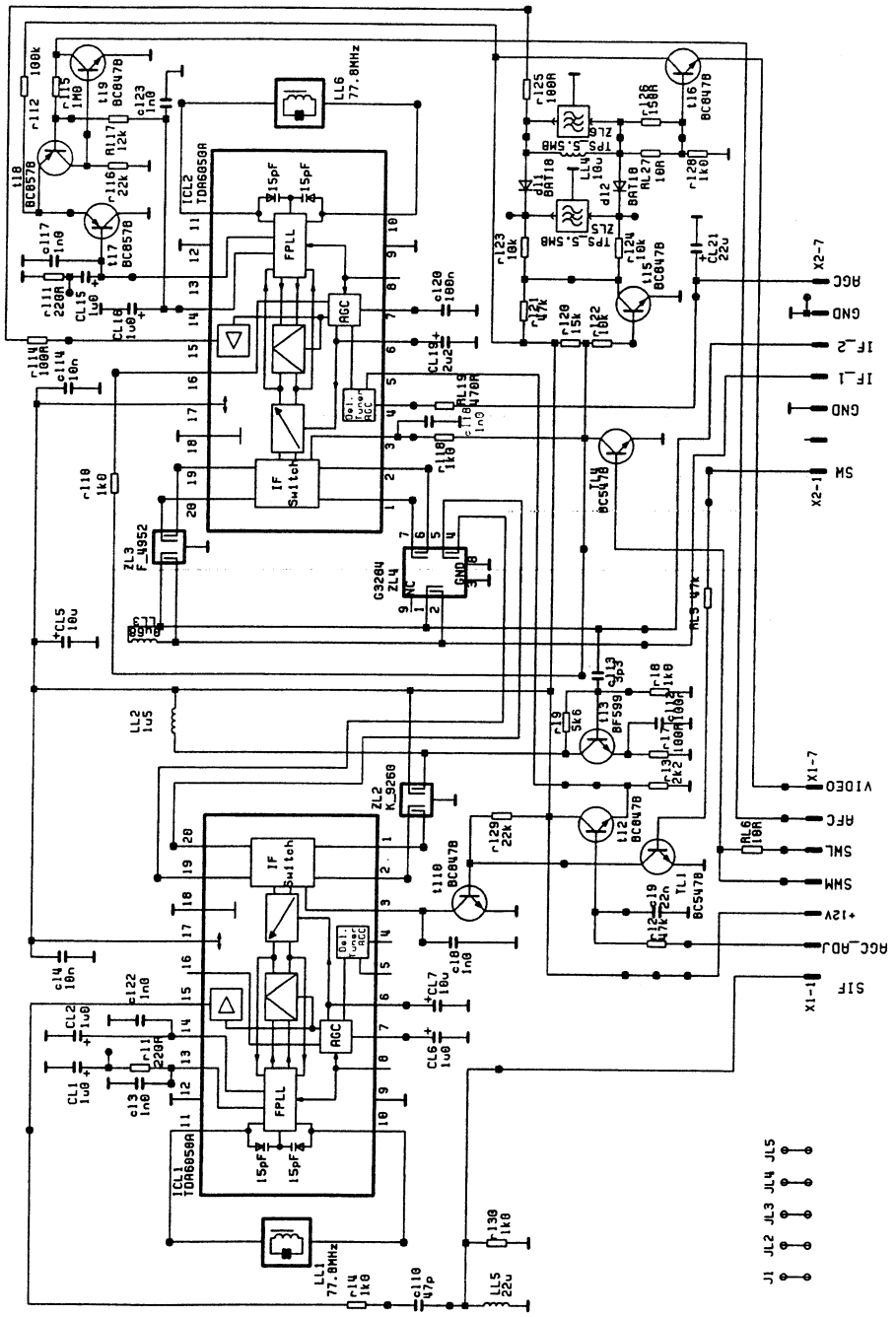


KK670 Width compensation module

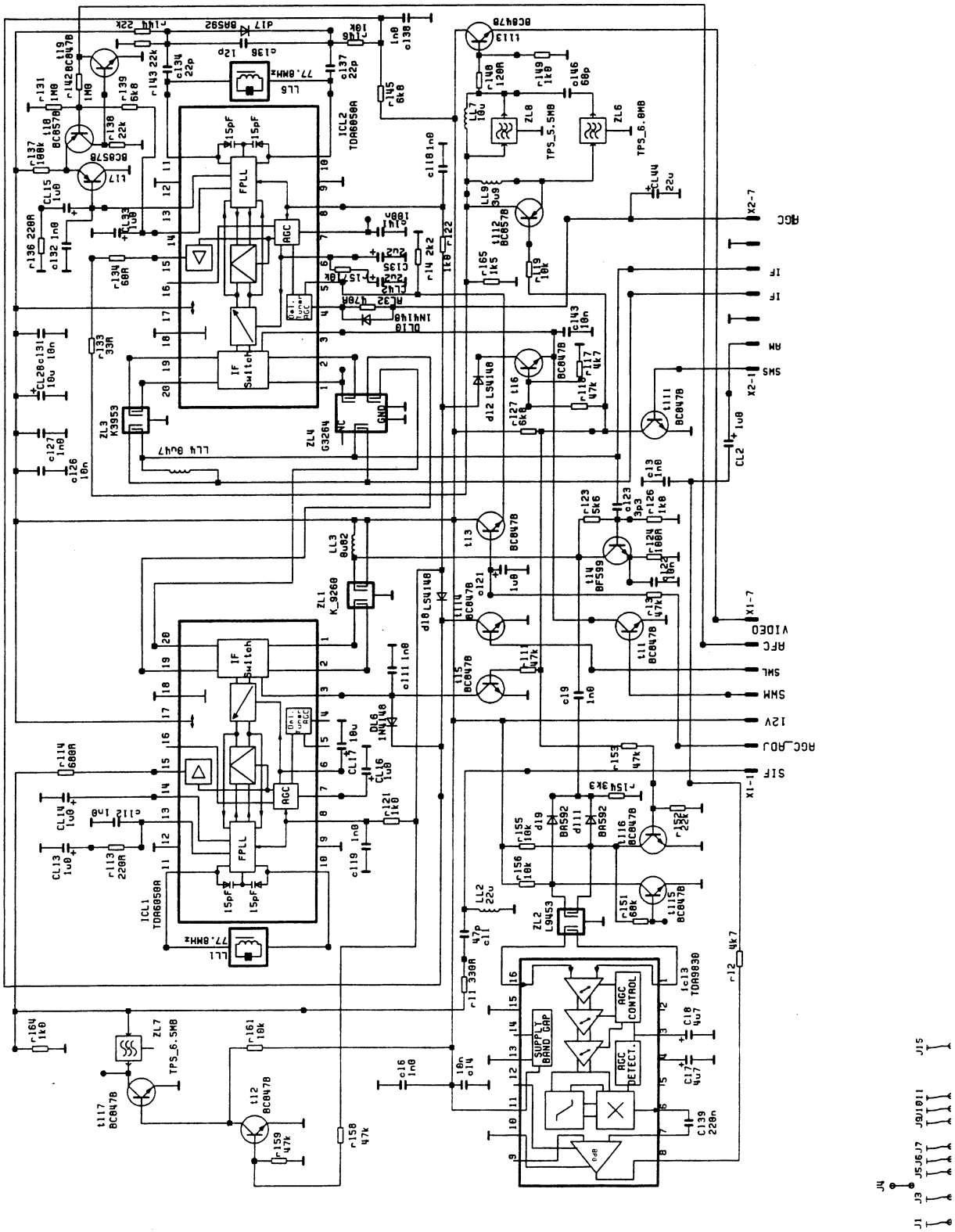




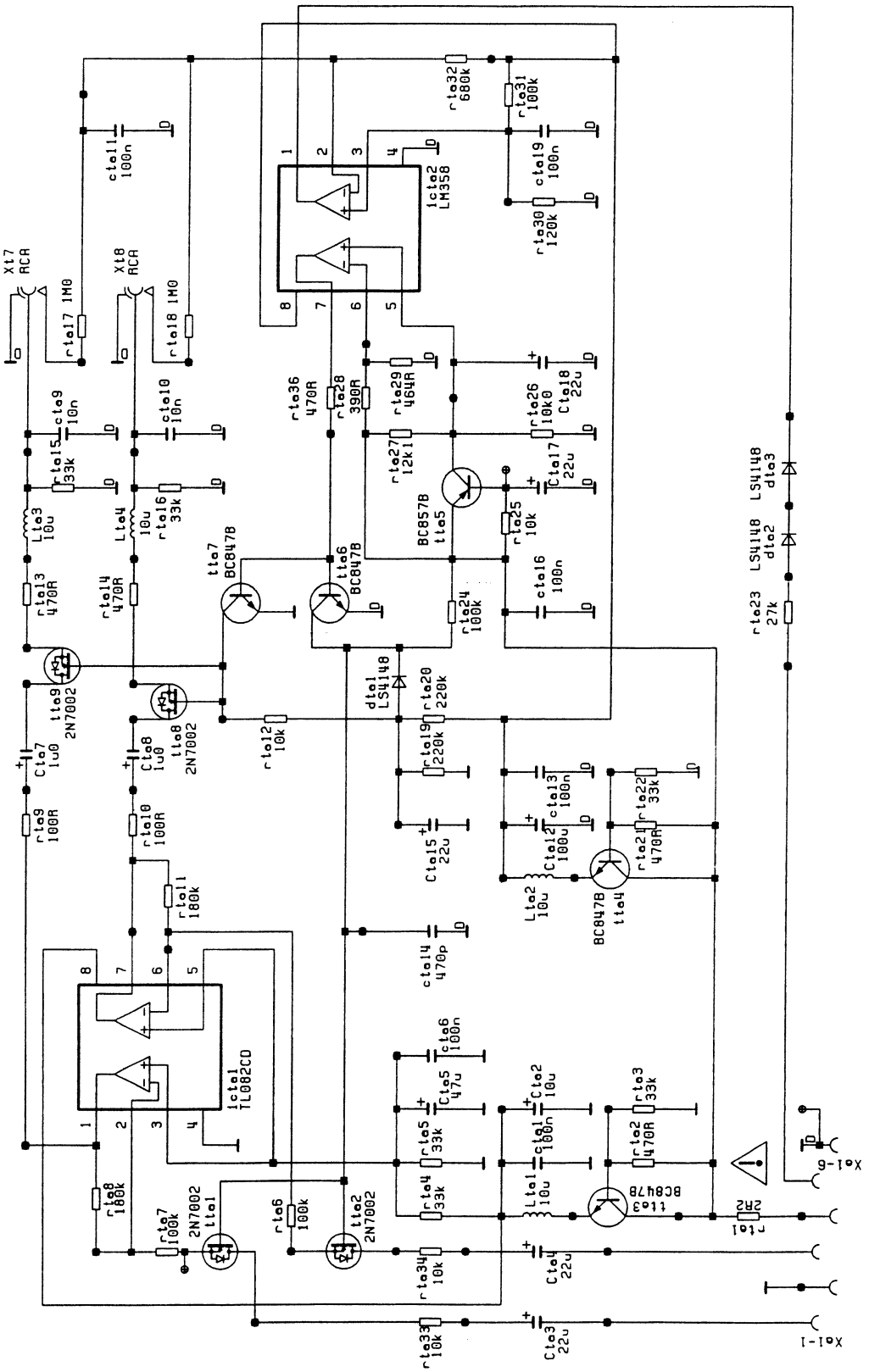
LL670/671 IF-module



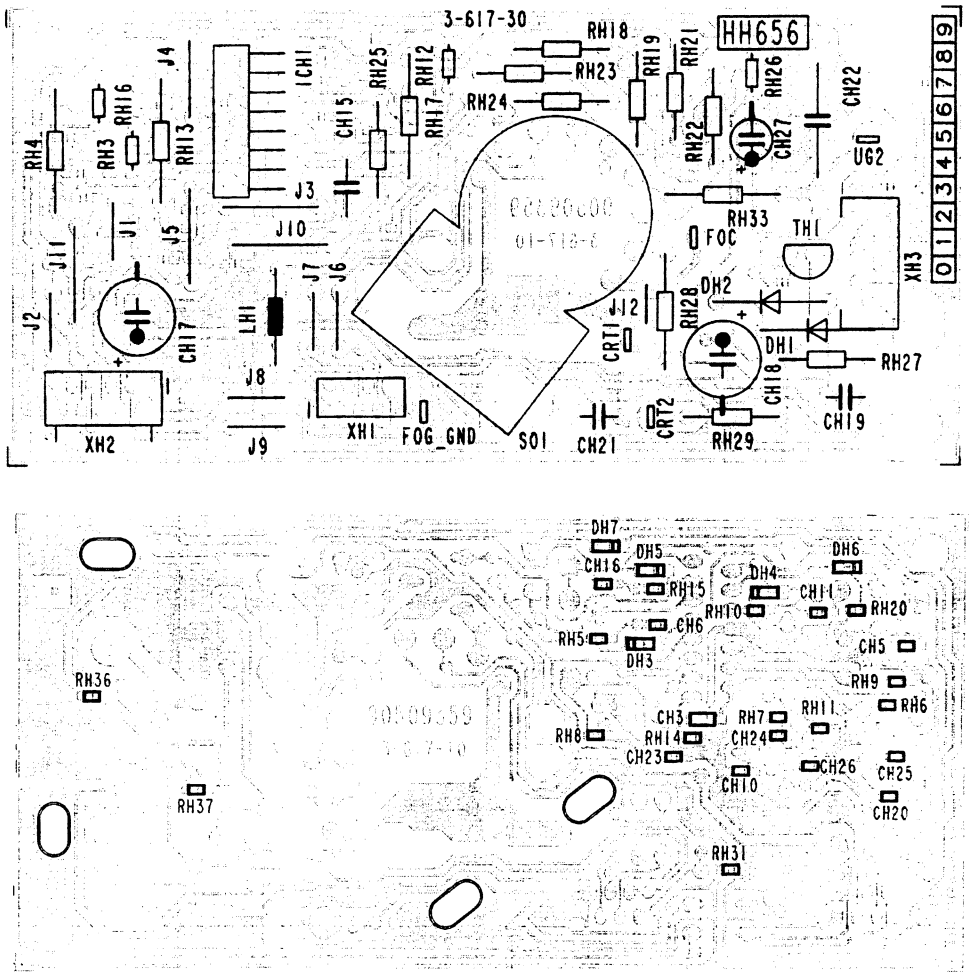
LL675 IF-module



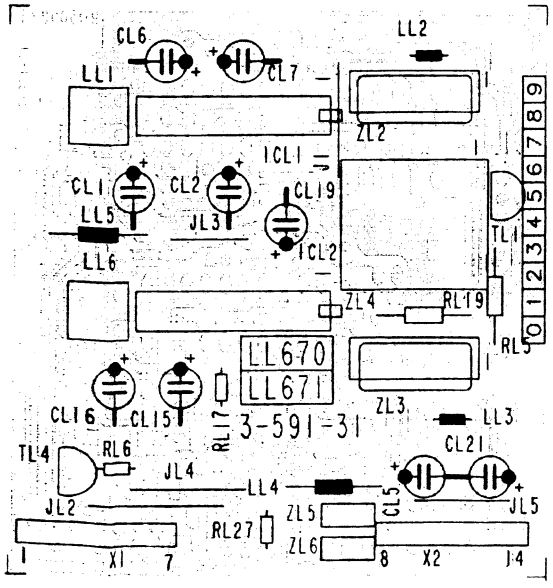
TA601 AUX-module

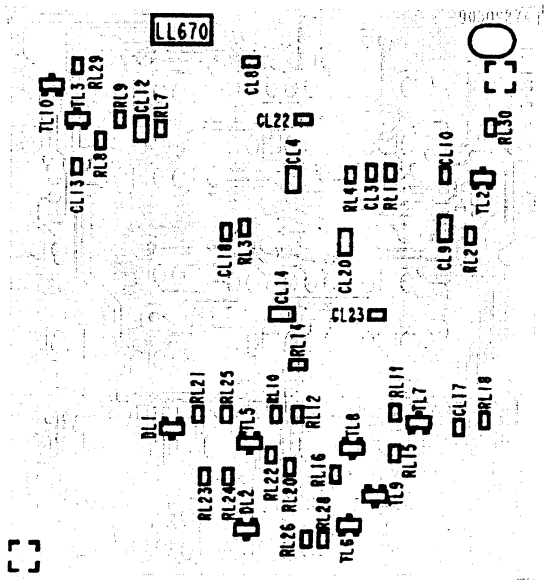


HH654/658 CRT-module

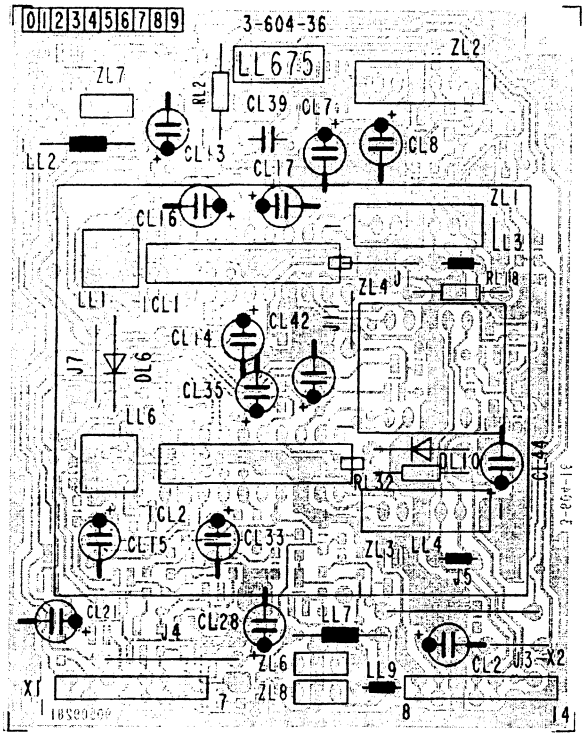


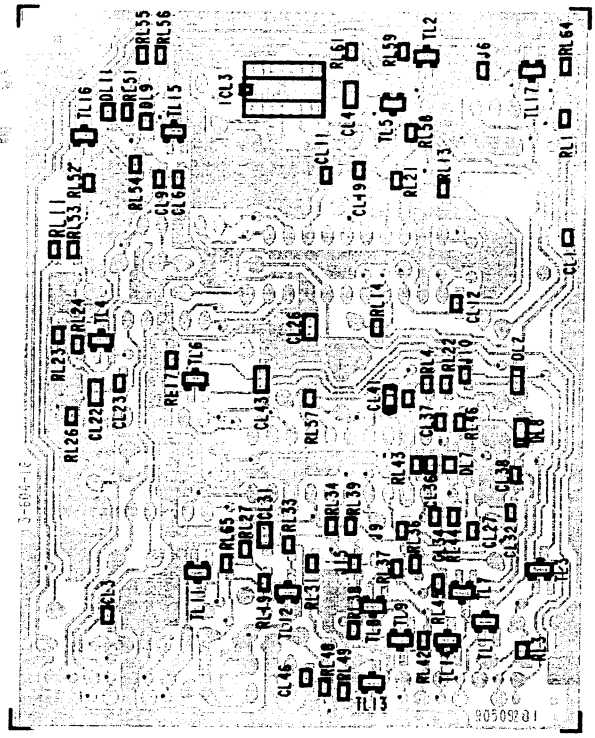
LL670/671 IF-module



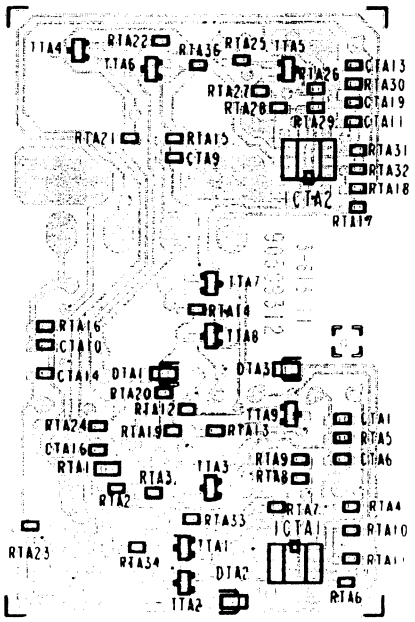


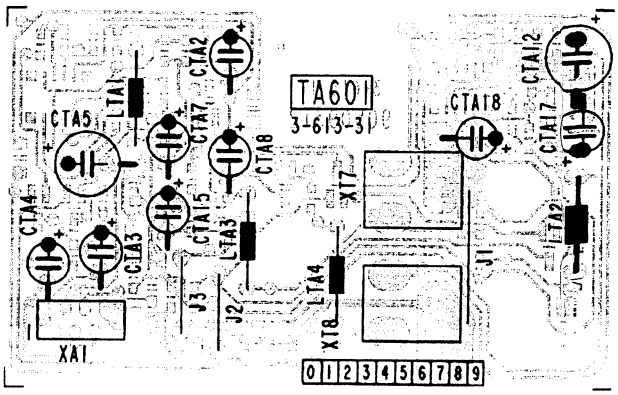
LL675 IF-module



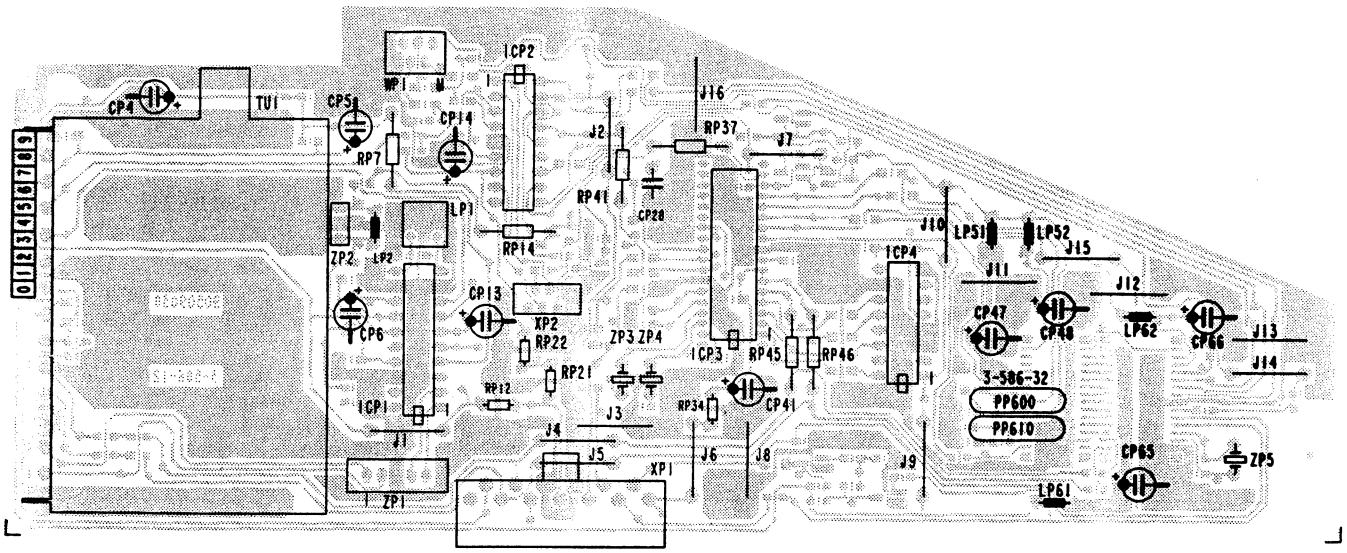


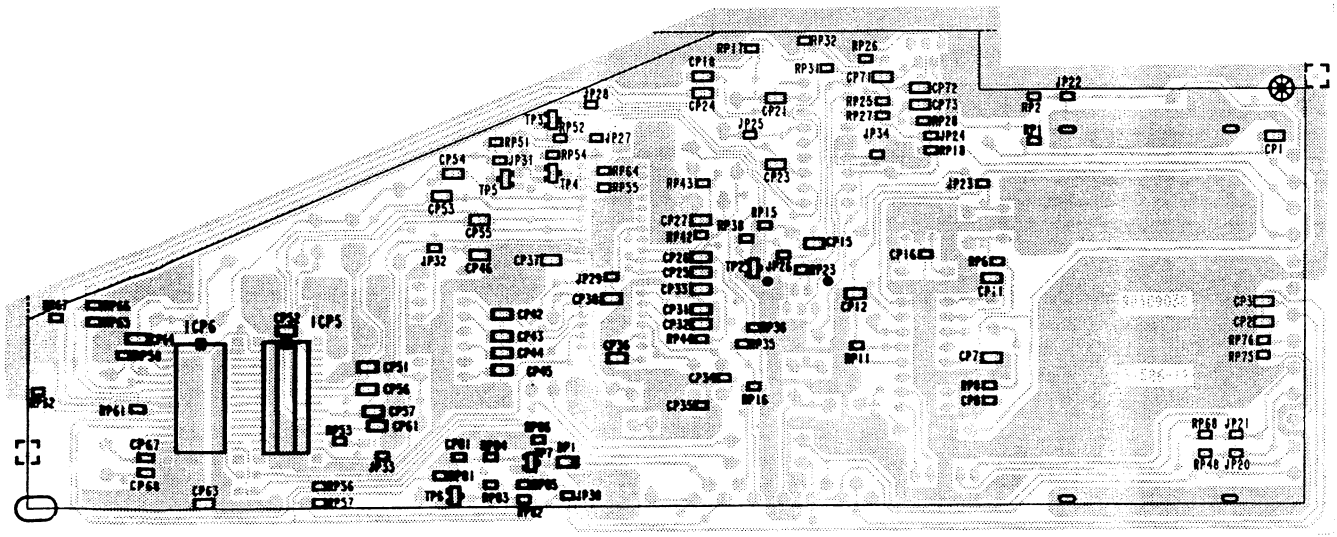
TA601 AUX-module



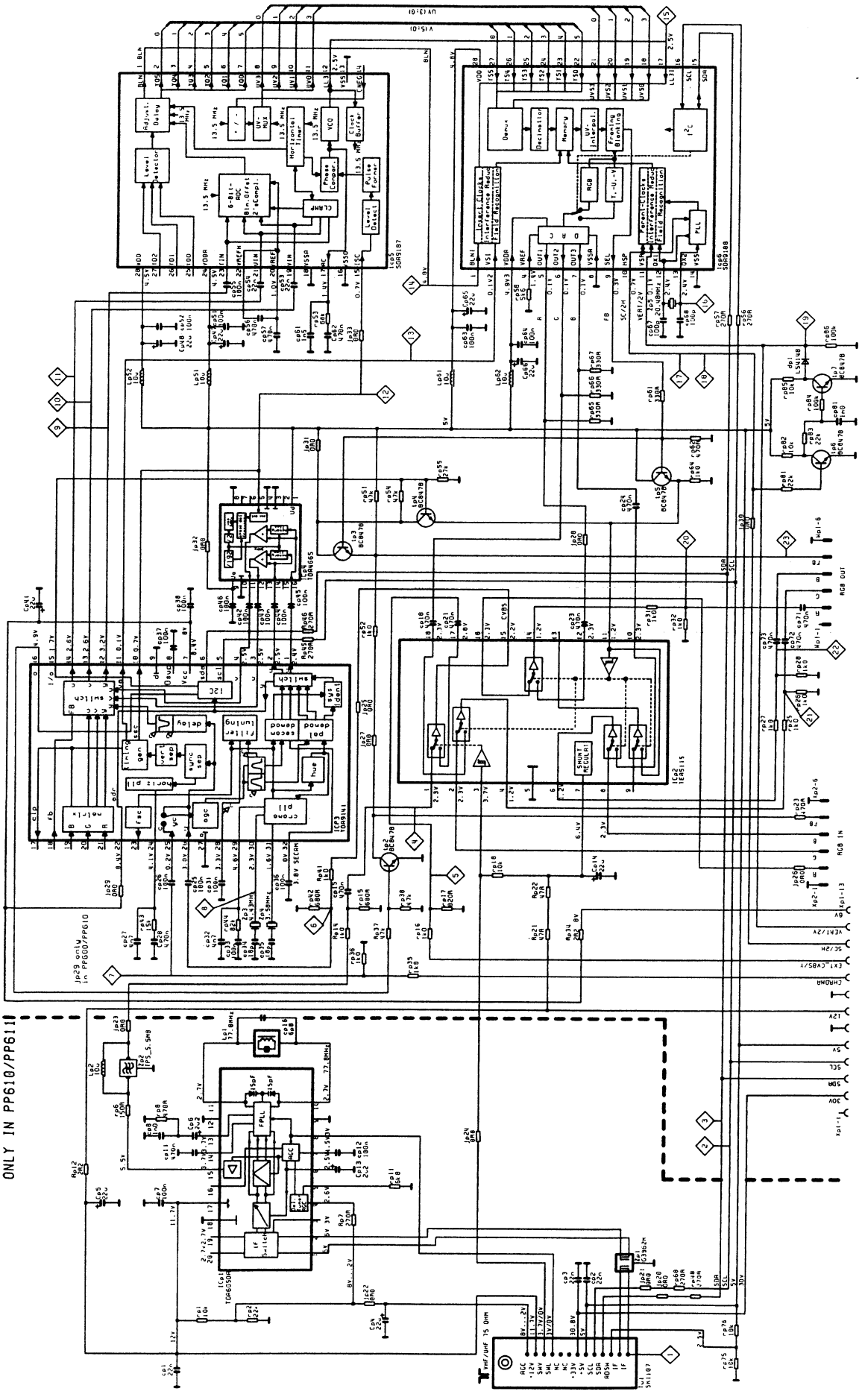


PP601 PIP-module

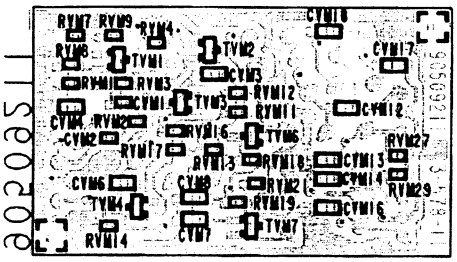


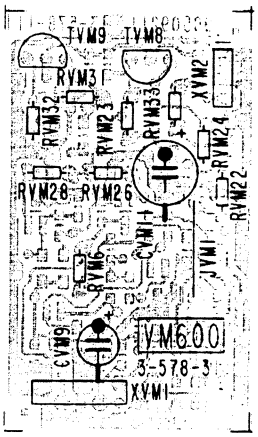


PP601 PIP-module

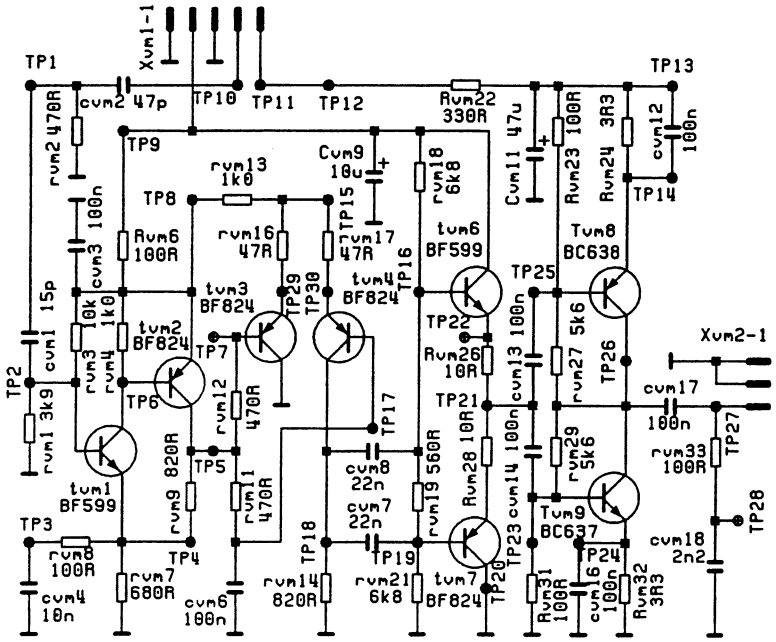


VM602 SVM-module





VM602 SVM-module



SPARE PARTS ERSATZTEILE PIECES DE RECHANGE
RESERVDELAR PARTI DI RICAMBIO

⚠ Safety components in accordance with existing safety regulations. These components must be replaced only with original parts.
⚠ Sicherheitsbauteil im Sinn der Sherheitsbestimmung. Diese Teile dürfen nur durch Originalteile ersetzt werden.
⚠ Skyddskomponenter. Dessa komponenter får endast ersättas med original reservdelar.
⚠ Composant de sécurité conformément aux reglementations de sécurité. Ces composants doivent être uniquement remplacés par des piéces d'origines.
⚠ Componenti di sicurezza ai sensi del regolamento di sicurezza. Queste componenti devono venir sostituite unicamente con parti originali.

Main board

58631213	MAIN BOARD 50HZ 16:9 24 AWRFRL
58631216	MAIN BOARD 50HZ 16:9 24 AWDARB
58631217	MAIN BOARD 50HZ 16:9 24 AWEARB
58631218	MAIN BOARD 50HZ 16:9 24 AWRARB

Item		Description	Order no.
POWER-BLOCK			
RESISTORS			
FOC		POT FOCUS 59M K 2W0	31260002
PO	1	TRIM HOR 470R 20% 0W1	31230006
RK	1 (Vi 24")	CARF 100K 5% 0W25 FP	31630037
RK	1 (Vi 28")	CARF 47K 5% 0W25 FP	31630049
RK	2,14	CARF 100K 5% 0W25 FP	31630037
RK	3 (Vi 24")	CARF 100K 5% 0W25	31660030
RK	3 (Vi 28")	CARF 68K J 0W25	31660056
RK	5,6,7,8	CARF 5K6 5% 0W25 FP	31630028
RK	10	CARF 6K8 5% 0W25 FP	31630029
RK	11,12	CARF 10K 5% 0W25 FP	31630031
RK	13	FUS V 27R 5% 0W25	31860001
RK	15 (Vi 28")	FUS V 1R2 5% 0W5	31850005
RK	16 (Vi 28")	FUS V 4R7 5% 0W25	31860002
RK	17	METF 150K 1% 0W6	31440017
RK	19	CARF 1R5 5% 0W5 FP	31630014
RK	30	METOX 39R 5% 2W0	31430005
RK	4	CARF 27K 5% 0W25	31660043
RK	40	SMD 100R 5% 0W1	31425852
RK	41,42	SMD 1K37 1% 0W25	31490028
RK	43	SMD 3K3 5% 0W1	31425829
RK	44 (Vi 24")⚠	SMD 56K 5% 0W1	31425842
RK	44 (Vi 28") ⚠	SMD 100K 5% 0W1	31425844
RK	45,53	SMD 10K 5% 0W1	31425833
RK	46	SMD 1K0 5% 0W1	31425820
RK	47	SMD 330R 5% 0W1	31425857
RK	48	SMD 750R J 0W25	31425656
RK	49	METOX 1K0 5% 1W0	31430006
RK	50	SMD 47R J 0W25	31425607
RK	51	METOX 1R0 5% 1W5	31430007
RK	52 (Vi 24")	CARF 10R 5% 0W25	31660005
RK	52 (Vi 28")	CARF 10R 5% 0W25 FP	31514513
RK	54 (Vi 24") ⚠	FUS V 0R47 5% 0W5	31850004
RK	54 (Vi 28") ⚠	CARF 0R47 5% 0W25 FP	31514509
RK	55	FUS V 1K0 10% 1W0	31850003
RK	56,58	CARF 2R2 5% 0W25 FP	31514511
RK	57 (Vi 24")	CARF 4K7 5% 0W25 FP	31514522
RK	60 (Vi 24") ⚠	CARF 10K 5% 0W25	31660022
RK	71	CARF 0R68 5% 0W25 FP	31630017
RO	1	CARF 6K8 5% 0W25 FP	31630029
RO	2	CARF 3K3 5% 0W25	31660019
RO	3	SMD 270R 5% 0W1	31425855
RO	4,8	METF 150K 1% 0W6	31440017
RO	6,7	METF 374K 1% 0W6	31440018
RO	10	SMD 4K32 1% 0W25	31490030
RO	11	SMD 24K 5% 0W25	31490031
RO	12	SMD 18K 5% 0W1	31425813
RO	13,14,15,23	CARF 12K 5% 0W25 FP	31630032
RO	16,17	WRLAC 1R5 5% 5W0	31360004
RO	18,19	SMD 560R 5% 0W1	31425818
RO	20	PTC Rs=24ohm DEGAUSSING	31940001
RO	21	COMP HV 10M 5% 0W5	31460001
RO	24	CARF 27R 5% 0W25	31660007
RO	25	METOX 47R 5% 2W0	31430008
RO	26	CARF 4K7 5% 0W25	31660031
RO	27	WRLAC 33K 10% 9W0	31350002
RO	28,29,38	METF 0R47 5% 0W6	31440019
RO	30,31	CARF 180K 5% 0W25 FP	31630039
RO	32	CARF 1K0 5% 0W25	31660016
RO	33,34	CARF 150R 5% 0W25	31660002
RO	35	METOX 220R 5% 4W0	31430004
RO	36	FUS I 0R1 10% 0W4	31820003
RO	37,40	CARF 56R 5% 0W25 FP	31630046
RO	41 (Vi 24")	METF 82K5 F 0W60	31440047
RO	41 (Vi 28")	METF 100K 1% 0W6	31440014
RO	42,43	METF 4K32 1% 0W6	31440026
RO	44	METF 3K01 1% 0W6	31440025
RO	45	METF 750R 1% 0W6	31440023
RO	46	SMD 100K 5% 0W1	31425844
RO	47	METF 1K47 1% 0W6	31440024
RO	51	SMD 4K7 5% 0W1	31425824
RO	52,54,22	SMD 10K 5% 0W1	31425833
RO	53,55	SMD 2K7 5% 0W1	31425821
RO	62	CARF 10K 5% 0W25	31660022
RO	63	SMD 22K 5% 0W1	31425837
RO	64	SMD 47K 5% 0W1	31425836
RO	65	CARF 47K 5% 0W25	31660026
RO	67	SMD 390R 5% 0W1	31425816
RO	68	SMD 4K7 5% 0W25	31425629
RO	71	METOX 10R 5% 2W0	31430001
RO	71 (Vi 28")	METOX 2R7 5% 1W5	31440032
RO	72 (Vi 24")	FUS V 2R2 5% 0W25	31860003
RO	81	SMD 68K 5% 0W1	31425838
RO	82,83	SMD 15K 5% 0W1	31425835
RO	84,56,57	SMD 2K2 5% 0W1	31425828
RO	85	SMD 1K0 5% 0W1	31425820
RO	86	SMD 470R 5% 0W1	31425817
RO	87	FUS V 27R 5% 0W25	31860001
RS	1	SMD 1K8 5% 0W1	31425827
RS	2,3	METF 1R21 1% 0W6	31450008
RS	4,8,10 (Vi 24") ⚠	CARF 390R J 0W50	31650002
RS	4,8 (Vi 28") ⚠	CARF 470R 5% 0W25 FP	31514520
RS	5	CARF 22R 5% 0W25	31660042
RS	6	FUS V 33R J 0W50	31850006
RS	7	CARF 27K 5% 0W25 FP	31630035
RS	9	CARF 0R68 5% 0W25 FP	31630017
CAPACITORS			
CK	1	MKT 100N 10% 63V	33127106
CK	14	MKT 100N 10% 250V	33360003
CK	19,70,71	CER 330P 10% 500V	32780002
CK	20	CER 2N2 20% 500V	32780003
CK	21,57	ELYT 4U7 20% 250V	34610001
CK	30	MKT 4N7 10% 100V	33522106
CK	31	ELYT 47U 20% 250V	34610003
CK	40	ELYT 2U2 20% 160V	34260812
CK	41	CER SMD 1N0 5% 50V	32125648
CK	42	ELYT 470U M 16V	34220632
CK	50	MKP 33N J 100V	33450042
CK	51 (Vi 24") ⚠	MKP 1N5 5% 1K6V	33460010
CK	51 (Vi 28") ⚠	MKP 1N0 5% 1K6V	33460028
CK	52 (Vi 24") ⚠	MKP 12N 3.5% 1K6V	33450038
CK	52 (Vi 28") ⚠	MKP 9N1 5% 1K6V	33460013
CK	53 (Vi 24") ⚠	MKP 47N 3.5% 400V	33450036
CK	53 (Vi 28") ⚠	MKP 27N 5% 400V	33240998
CK	54 (Vi 24") ⚠	MKP 1U0 J 250V	33240959
CK	54 (Vi 28") ⚠	MKP 240N 5% 400V	33460001

Item		Description	Order no.
CK	55 (Vi 24") ⚠	MKP 220N J 250V	33240834
CK	55 (Vi 28") ⚠	MKP 120N 5% 400V	33241026
CK	56	MKT 1U5 10% 63V	33120947
CK	57 (Vi 24")	ELYT 4U7 20% 250V	34610001
CK	57 (Vi 28")	ELYT 2U2 20% 160V	34260812
CK	58	MKT 470N 10% 63V	33127123
CK	60 ⚠	MKP 680N 5% 160V	33460004
CK	63 ⚠	ELYT 1000U 20% 35V	34510010
CK	72	ELYT 100U 20% 35V	34510006
CK	73 ⚠	CER SMD 1N5 2% 50V	32190025
CO	1	MKT 220N 10% 400V	33360002
CO	2	ELYT 2U2 20% 350V	34630001
CO	3,4	CER 2N2 20% 400VAC	32960001
CO	5,11,62	CER SMD 100N 10% 50V	32535920
CO	6,7,8,9	CER 3N3 20% 1KV	32760001
CO	10	CER SMD 100P 5% 50V	32125515
CO	12	CER 1N5 20% 400VAC	32960002
CO	13	MKP 6N8 5% 63V	33480007
CO	14	MKT 10N 5% 400V	33360006
CO	15,16,40,25	ELYT 1U0 20% 63V	34540022
CO	17	ELYT 100U 20% 25V	34540020
CO	18	MKP 5N6 5% 160V	33460018
CO	19,35,37,39,42,43, 46,51,63,64	MKT 100N 10% 63V	33127106
CO	20	MKP 220P 5% 1K6V	33460009
CO	21	MKP 33N 5% 1KV	33460016
CO	22	ELYT 47U 20% 16V	34540019
CO	23	ELYT 220U 20% 385V	34260826
CO	24	CER SMD 4N7 10% 50V	32790007
CO	31	MKP 330P 10% 1K6V	33460017
CO	32	MKT 100N 10% 250V	33360003
CO	33	ELYT 47U 20% 250V	34610003
CO	34,38,44,49	CER 330P 10% 500V	32780002
CO	36,73	ELYT 470U 20% 40V	34510014
CO	41	ELYT 1000U 20% 35V	34510013
CO	45,72,65,69	ELYT 10U 20% 63V	34540025
CO	47,48,52,54	ELYT 1000U 20% 16V	34510004
CO	59	ELYT 22U 20% 63V	34540026
CO	61	ELYT 4U7 20% 63V	34540024
CO	71	ELYT 1000U 20% 16V	34540015
CS	1	CER SMD 100P 5% 50V	32125515
CS	2	MKT 470N 10% 63V	33127123
CS	3	CER SMD 100N 10% 50V	32535920
CS	4	ELYT 1000U 20% 35V	34510010
CS	5	ELYT 47U 20% 50V	34540028
CS	6,7	MKT 10N K 63V	33460034
CS	8	MKT 100N 10% 63V	33127106

TRANSISTORS

DO	17	THYR MCR100-6 400V 0.8A	36100001
TK	1,2	PNP SMD BC858C 30V 100mA	36145423
TK	3	NPN PWR 2SD1406 60V 3A	36270009
TK	4	PNP SMD BC857B 45V 100mA	36145412
TK	5	PNP BC327A 60V 500mA	36220006
TK	6	NPN S2000AF 700V 8A	36161398
TO	1	N-FET PWR IRFBC40 600V 8A	36370001
TO	12	PNP SMD BC857B 45V 100mA	36145412
TO	14	NPN BC337-25 45V 500mA	36147138
TO	2,5,6	NPN BC547B 45V 100mA	36220002
TO	4	N-FET SMD BUK483-60A 60V	36380001
TO	7,9,11	NPN SMD BC847B 45V 100mA	36145312
TO	8	NPN PWR 2SD1406 60V 3A	36270009

DIODES

DK	1,10	1N4148 75V 200mA	36420002
DK	3,6,8	RECT PWR 1N4937 600V 1.0A	36575353
DK	4	RECT PWR BYW74 400V 3.0A	36575418
DK	5	RECT PWR BY228 1K5V 5A	36575543
DK	7	RECT PWR BYW32 200V 2.0A	36575413
DK	19	RECT PWR BYV26C 600V 1.0A	36610005
DO	1,2,3,4	RECT PWR BY527 1K25V 2A	36610001
DO	5,8,10,9,13	1N4148 75V 200mA	36420002
DO	7,6	RECT PWR 1N4937 600V 1.0A	36575353
DO	11	RECT BYT56K 800V 3.0A	36621552
DO	12,13	RECT BYW98 200V 3A	36575470
DO	14,16	SCHOTTKY SB545S 45V 5A	36420003

Item		Description	Order no.
DO	18	SMD BAV99 70V 150mA	36490003
DO	20	1N4148 75V 200mA	36420002
DS	1	RECT PWR 1N4007 1KV 1A	36571141

ZENERS

DZK	1	Z BZX83C 8V2 5%	36770003
DZK	2	Z BZX83B 30V 2%	36770005
DZK	4 (Vi 24") ⚠	Z SMD BZX84B 12V 2%	36780008
DZK	4 (Vi 28") ⚠	Z DI SMD BZX84C 9V1 5%	36780007
DZO	1	Z SMD BZX84C 8V2 5%	36780003
DZO	3	Z SMD BZX84C 8V2 5%	36780003
ZDK	3	Z SMD BZX84C 2V4 5%	36780005
ZDO	2	Z BZX85C 13V 5% 1W3	36770004

INTEGRATED CIRCUITS

ICO	1	PWR CONT TDA4605	37661430
ICO	2	OPTO COUPL TCDT1101G	36950003
ICO	3	V-REG PQ12RH11 12V 1.5A	37460007
ICO	4	V-REG LM2940CT 5V 1A	37681840
ICO	6	V-REG PQ05RH11 5V 1.5A	37460008
ICO	7,8	VREF TL431CLP	37410012
ICS	1	DEFL TDA8351-N4	37450008

FUSES

FO	1	F1,6A MINIATURE D=8,5	43770002
FO	2,3,4	T4,0A MINIATURE D=8,5	43770003
RK	16	T2,0A MINIATURE D=8,5	43770005

TRANSFORMERS

TRK	1 (Vi 24") ⚠	DST TRAFO Eldor 1182.9009	45360027
TRK	1 (Vi 28") ⚠	DST TRAFO Eldor 1182.9006A	45360013
TRK	2	TRAFO Vogt 527 01 031 00	45231187
TRO	1 (Vi 24")	MAINS TRAFO FM3603	45320022
TRO	1 (Vi 28")	MAINS TRAFO FM3602-B	45320015

COILS

LK	30	82uH 5% 1A	45570936
LK	31	280uH FJ1311	45610004
LK	51	490uH 5% 3.3A East/W	45380006
LK	52 (Vi 24") ⚠	LIN COIL 35uH Vogt 592 09 03	45161219
LK	53 (Vi 24") ⚠	9mH	45610016
LK	70	SMD 9,8x3,2mm	46541525
LO	1	4.7uH K 620mA	45620008
LO	2,5,6	EMI SUPPRES BEAD 3.5x9	45620007
LO	3,4	8uH FJ0149	45610001

OTHERS

DK	4,5	COOLING PLATE	65247305
DO	11	DI HEATSINK -2	61588814
DO	12,13	DI HEATSINK -2	61582170
GND		BLADE CONNECTOR 2.8MM	41930001
TK	6	HEATSINK 2 100Hz	83618803
TK	6,6	TRANSISTOR HOLDER	86817341
TO	1	HEATSINK 1 100/50Hz	83618802
TO	1	ISOLATOR TO-220	82318802
TO	1	TRANSISTOR HOLDER	86817341
TO	8;ICS1;ICO3,6	ADD. HEATSINK 3 100/50Hz	65248804
TO	8;ICS1;ICO3,6	HEATSINK 3 100/50Hz	83618804
TO	8;ICS1;ICO3,6	PT-SCREW 3,5x6,5	78588813
TO	8;ICS1;ICO3,6	TRANSISTOR HOLDER	86817341
XK	1	CONNECTOR HEADER 6-PIN	41710002
XK	2	ROW CONNECTOR 3-PIN	41710007
XO	1	ROW CONNECTOR 4-PIN	73190604
XO	2	ROW CONNECTOR 2-PIN	73184750
XS	1	ROW CONNECTOR 3-PIN	73190603
		ANODE CABLE ELD	41314357
		ELDOR-DST CABLE 260MM	41314361
		FASTENING SLEEVE 3mm	86817371
		FASTENING SLEEVE 4mm	86817340
		FOCUS CABLE 1,2 410MM	41314360
		FOCUS CABLE 410mm	41314371
		SCREEN CABLE 460mm	41314359

Item		Description	Order no.
SIGNAL BLOCK			

RESISTORS

CA	36 (FP/19)	CARF 10R 5% 0W25 FP	31514513
J	192,229,248,401	SMD 0R 5% 0W1	31425802
J	79,82,91,92,93,94, 96,135,146,174,178	SMD 0R 5% 0W1	31425802
RA	1,9	SMD 1R0 5% 0W25	31490060
RA	2,7	SMD 1K5 5% 0W1	31425826
RA	3,8	SMD 33R 5% 0W1	31425808
RA	4,6	SMD 6K8 5% 0W1	31425831
RA	11,26,27,28,29,30, 44,45	SMD 100R 5% 0W1	31425852
RA	12,13,14,15,16,17, 48,49	SMD 33K 5% 0W1	31425840
RA	18	METOX 2R2 5% 4W0	31440010
RA	19,21,42,46	SMD 4K7 5% 0W1	31425824
RA	20,25,33,39	SMD 68K 5% 0W1	31425838
RA	22,23	SMD 270R 5% 0W1	31425855
RA	24	SMD 1K0 5% 0W1	31425820
RA	31	CARF 180R 5% 0W25 FP	31630026
RA	32,38,47	SMD 10K 5% 0W1	31425833
RA	34,41	CARF 47R 5% 0W25 FP	31514525
RA	36,37	SMD 5K6 5% 0W1	31425825
RA	43	SMD 150K 5% 0W1	31425846
RA	51,52,53,54,56,57	SMD 1M0 5% 0W1	31425801
RD	1	SMD 15K 5% 0W1	31425835
RD	2	SMD 82K 5% 0W25	31425642
RD	3,4	SMD 270R 5% 0W1	31425855
RD	7	SMD 330R 5% 0W1	31425857
RD	11,12	SMD 10K 5% 0W1	31425833
RD	13,14	SMD 1K0 5% 0W1	31425820
RD	400	SMD 470R 5% 0W1	31425817
RF	2,33,34,20	SMD 1K0 5% 0W1	31425820
RF	3	SMD 2K2 5% 0W1	31425828
RF	4,5,21,28,29,30,38	SMD 10K 5% 0W1	31425833
RF	6,7	SMD 270R 5% 0W1	31425855
RF	8,11,51,32	SMD 4K7 5% 0W1	31425824
RF	9,12,27,36	SMD 100R 5% 0W1	31425852
RF	16,24,26	CARF 270R 5% 0W25	31660011
RF	17,18,19	SMD 220R 5% 0W1	31425815
RF	22,23	CARF 1K0 5% 0W25	31660016
RF	25	CARF 1K0 5% 0W25	31660016
RF	31	SMD 12K 5% 0W1	31425834
RF	37	SMD 18K 5% 0W1	31425813
RF	39	SMD 100K 5% 0W1	31425844
RF	40,41	SMD 470R 5% 0W1	31425817
RG	3	SMD 4K7 5% 0W1	31425824
RG	61	SMD 1K0 5% 0W1	31425820
RQ	1	SMD 15K 5% 0W1	31425835
RQ	2,13,17,18,21,28,29, 31,32,69,76,58	SMD 470R 5% 0W1	31425817
RQ	4	SMD 22K 5% 0W1	31425837
RQ	6,7,44,46,47,77,78,83	SMD 220R 5% 0W1	31425815
RQ	8,50,68,72,73,79	SMD 47K 5% 0W1	31425836
RQ	9,11,23,27,33,36,43	SMD 75R 5% 0W1	31425861
RQ	10,24,74	SMD 68R 5% 0W1	31425876
RQ	12,37	CARF 15K 5% 0W25 FP	31630033
RQ	14,16,19,22,38,39, 41,42	SMD 100K 5% 0W1	31425844
RQ	26,49	SMD 330R 5% 0W1	31425857
RQ	48	FUS I 0R1 10% 0W4	31820003
RQ	51,62	CARF 1K0 5% 0W25 FP	31514519
RQ	52,53	SMD 270R 5% 0W1	31425855
RQ	54	CARF 47R 5% 0W25	31660009
RQ	56,57	CARF 220R 5% 0W25	31660036
RQ	59	SMD 560R 5% 0W1	31425818
RQ	60	SMD 820R 5% 0W1	31425819
RQ	66	SMD 4K7 5% 0W1	31425824
RQ	67,84	SMD 1K0 5% 0W1	31425820
RQ	70	SMD 330K 5% 0W1	31425873
RQ	71	SMD 1M0 5% 0W1	31425801
RQ	81	SMD 10K 5% 0W1	31425833
RQ	82	SMD 150R 5% 0W1	31425812
RQ	85,86,87	SMD 0R 5% 0W1	31425802

Item		Description	Order no.
RR	1	SMD 10K 5% 0W1	31425833
RR	2	SMD 1K0 5% 0W1	31425820
RR	3,4,6	SMD 3K9 5% 0W1	31425830
RR	8	SMD 470R 5% 0W1	31425817
RR	9	SMD 1K5 5% 0W1	31425826
RR	10	SMD 2R2 5% 0W1	31490066
RT	1,3,4,7,8	SMD 0R 5% 0W1	31425802
RT	10	SMD 1K0 5% 0W1	31425820
RT	11,15,31	SMD 3K9 5% 0W1	31425830
RT	12	SMD 100K 5% 0W1	31425844
RT	13,14,16	SMD 100R 5% 0W1	31425852
RT	17,18	CARF 270R 5% 0W25	31660011
RT	24,27,26	CARF 1K0 5% 0W25	31660016
RT	25 (Vi 24")	SMD 180R 5% 0W1	31425854
RT	25 (Vi 28")	SMD 220R 5% 0W1	31425815
RT	30	SMD 2K2 5% 0W1	31425828
RT	32	CARF 100K 5% 0W25 FP	31630037
RT	33,34	SMD 1K5 5% 0W1	31425826
RT	35	CARF 150K 5% 0W25 FP	31630038
ZDT	2	SMD 0R 5% 0W1	31425802

CAPACITORS

CA	1,2	ELYT 22U 20% 16V	34540009
CA	3	ELYT 470U M 16V	34220632
CA	4,8,12,13,16,25,37, 47,57,61,62	CER SMD 100N 10% 50V	32535920
CA	6	ELYT 3300U 20% 35V	34510009
CA	7	ELYT 47U 20% 16V	34540019
CA	9,11	ELYT 1000U 20% 25V	34510015
CA	14,17,59	CER SMD 10N 10% 50V	32535918
CA	18,29	ELYT 1U0 20% 63V	34540022
CA	19,21	ELYT 2U2 20% 63V	34540023
CA	26,22,23,24	CER SMD 1N0 10% 50V	32536203
CA	27,28,71,72,69,70	CER SMD 390P 5% 50V	32190012
CA	30,33,34	CER SMD 47P 5% 50V	32125508
CA	31,32	CER SMD 3P3 5% 50V	32190011
CA	35,39,40,42,43,50	MKT 330N 10% 63V	33127113
CA	38,58	ELYT 220U 20% 16V	34510003
CA	41,49,56,48,60,65,68	ELYT 10U 20% 63V	34540025
CA	44,45	CER SMD 470P 5% 50V	32190013
CA	46	ELYT 3U3 20% 63V	34540029
CA	52,54,51	ELYT 22U 20% 35V	34540021
CA	55	MKT 10N K 63V	33460034
CA	63,64	MKT 100N 10% 63V	33127106
CA	66,67	CER SMD 100P 5% 50V	32125515
CD	11	MKT 470N 10% 63V	33127123
CD	12,16	CER SMD 3N3 10% 50V	32535908
CD	13,19,21,22,24,26, 27,28,29,31	CER SMD 100N 10% 50V	32535920
CD	14	CER SMD 22N Z 50V	32534910
CD	17,18	CER SMD 18P 5% 50V	32125520
CF	1,3,8,9,10	CER SMD 100N 10% 50V	32535920
CF	2	ELYT 47U 20% 16V	34540019
CF	5,4	CER SMD 100P 5% 50V	32125515
CF	6,7	CER SMD 33P 5% 50V	32125507
CF	11,12	ELYT 10U 20% 63V	34540025
CQ	1	ELYT 10U 20% 63V	34540025
CQ	2,3,4,6,12,13	CER SMD 390P 5% 50V	32190012
CQ	5	ELYT 100U 20% 25V	34540020
CQ	7,9,14,17	CER SMD 330P 5% 50V	32125517
CQ	8,11,16,18,23,34,42,44	CER SMD 10N 10% 50V	32535918
CQ	19,21,22,27,28,29	CER SMD 100N 10% 50V	32535920
CQ	24,25,31,20	MKT 220N 10% 63V	33127108
CQ	26	ELYT 47U 20% 16V	34540019
CQ	30,45,46,47,41,39	CER SMD 2N2 10% 50V	32535904
CQ	35	CER SMD 47N 10% 50V	32790008
CQ	38	ELYT 10U 20% 63V	34540025
CQ	43	MKT 470N 10% 63V	33127123
CR	1,2	CER SMD 33P 5% 50V	32125507
CR	3,4,6,7,11,13,14,15	CER SMD 100N 10% 50V	32535920
CR	8	ELYT 10U 20% 63V	34540025
CR	9	ELYT 22U 20% 35V	34540021
CR	10	MKT 470N 10% 63V	33127123
CR	12	ELYT 100U 20% 25V	34540020
CT	1,2,3,9.14,	CER SMD 10N 10% 50V	32535918
CT	4,24	CER SMD 100N 10% 50V	32535920

Item		Description	Order no.
CT	19	CER SMD 47N 10% 50V	32790008
CT	21	ELYT 47U 20% 16V	34540019
CT	22	ELYT 1U0 20% 63V	34540022
CT	23	MKT 330N 10% 63V	33127113
CT	27,26,28	MKT 470N 10% 63V	33127123
CT	29	MKT 220N 10% 63V	33127108
CT	31	ELYT 4U7 20% 63V	34540024
TRANSISTORS			
TA	3,8	NPN SMD BC847B 45V 100mA	36145312
TA	4	PNP SMD BC857B 45V 100mA	36145412
TA	6,7	N-FET SMD 2N7002 60V 180mA	36380002
TD	2	NPN SMD BC847B 45V 100mA	36145312
TF	1,2,3	NPN SMD BC847B 45V 100mA	36145312
TF	4	PNP SMD BC857B 45V 100mA	36145412
TQ	1,2	NPN BC547B 45V 100mA	36220002
TQ	3,4,7,9	NPN SMD BC847B 45V 100mA	36145312
TQ	6,8	PNP SMD BC857B 45V 100mA	36145412
TT	1,3	NPN SMD BC847B 45V 100mA	36145312
TT	5	PNP SMD BC857B 45V 100mA	36145412
DIODES			
DA	4	SMD LS4148 75V 200mA	36490002
DF	1	SMD LS4148 75V 200mA	36490002
DQ	2	1N4148 75V 200mA	36420002
DT	3	1N4148 75V 200mA	36420002
ZENERS			
DQ	1	Z BZX83C 10V 5%	36770002
DR	1	Z BZX83C 3V3 5%	36770001
DZA	1	Z SMD BZX84B 12V 2%	36780008
DZQ	1,2	Z SMD BZX84C 8V2 5%	36780003
ZDA	1	Z BZX83B 8V2 2%	36770009
INTEGRATED CIRCUITS			
ICA	1	AUDIO TDA7262	37430008
ICA	2	AUDIO MSP3410 TC24	37430005
ICA	3	OPAMP MC33078N	37470006
ICD	1	VIDEO TDA9141-N2	37440006
ICD	3	VIDEO TDA4665-V3	37410008
ICF	1(RFRL)	EPROM M27C4001-15F1 FTC32	37864003
ICF	1(EARB,DARB,RARB)	EPROM M27C2001-15F1 FTA32	37792266
ICF	2	EEPROM 2kx8 24LC16P	37860015
ICF	3	uP SMD SDA30C163 PLCC68	37850028
ICQ	1	VIDEO TEA6417	37440012
ICR	1	VIDEO SDA5273S/C26	37850058
ICR	2	DRAM 1Mx4 MCM54400	37860013
ICT	1	VIDEO TDA4780-V3	37440003
COILS			
J	1,J51	EMI SUPPRES BEAD 3.5x9	45620007
LA	1	10UH 10%	45571699
LA	2	10UH 10% 230mA	45630002
LA	3	10UH 10% 230mA	45620003
LF	1,2,3	10UH 10% 230mA	45620003
LQ	1,2,3	2.2UH 10% 520mA	45630003
LQ	4,6,7	10UH 10% 230mA	45620003
TA	1,2	LINE FILTER 2x5uH	45390004
CHRYSTALS			
ZA	1	18.432 MHz HC49/U	45710011
ZD	1	4433.619kHz HC-49/U	45730002
ZD	2	3.579545MHz HC-49/U	45730001
ZF	1	12.00MHz HC-49/U	45730005
ZR	*1*	*20.48MHz HC-49/U*	*45730004*
TU	1	TUNER RF-comp SK1110 180/ltk58231012	

Item		Description	Order no.
OTHERS			
ICA	1	HEATSINK 5 100/50HZ	83618805
ICA	1	TRANSISTOR HOLDER	86817341
ICF	1	IC SOCKET DIL32	41520751
ICF	3	IC SOCKET PLCC68	41562101
SQ	1	SPEAKER CONNECTOR 4-PIN	41450612
XA	11	CONNECTOR ROW 4-PIN	73186411
XA	2	ROW CONNECTOR 9-PIN	73190609
XQ	2	SCART CONNECTOR BLUE	41910004
XQ	3	SCART CONNECTOR Black	41450292
XQ	4	CONNECTOR MODULAR 6-PIN	41910002
XQ	5	CONNECTOR HEADER 8-PIN	41710003
XQ	6	CONNECTOR HEADER 12-PIN	41710004
XQ7/XD2		WIRE BUNDLE 6-PIN 200mm	48899808
XS	PKR	ROW CONNECTOR 4-PIN	73190604
XT	1,XD2	CONNECTOR HEADER 6-PIN	41710002
XT	2	CONNECTOR HEADER 10-PIN	41710005
XT	3,XA4	ROW CONNECTOR 13-PIN	73190613
XT	4,XD1	ROW CONNECTOR 16-PIN	73190510
		HEATSINK 6 100/50HZ	83618806

Item		Description	Order no.

AR602 surround module

RESISTORS			
RA	1,14,15,24,27,47	SMD 10K 5% 0W1	31425833
RA	2,4,34,35	SMD 220K 5% 0W1	31425847
RA	3,5,8,9	SMD 100R 5% 0W1	31425852
RA	6,7,10,17,19	SMD 100R 5% 0W1	31425852
RA	11,13	SMD 100K 5% 0W1	31425844
RA	12,31	SMD 470R 5% 0W1	31425817
RA	16	SMD 4K7 5% 0W1	31425824
RA	18	SMD 10K 5% 0W1	31425833
RA	20	SMD 10R 5% 0W1	31425810
RA	23,25	SMD 12K 5% 0W1	31425834
RA	26	SMD 47K 5% 0W1	31425836
RA	28,33,37,42	SMD 47K 5% 0W1	31425836
RA	29,30	SMD 1K0 5% 0W1	31425820
RA	32	SMD 1K5 5% 0W1	31425826
RA	36	SMD 150R 5% 0W1	31425812
RA	38,39	SMD 68R 5% 0W1	31425876
RA	40,41	SMD 2K7 5% 0W1	31425821
RA	43,44	SMD 1R0 5% 0W1	31490020
RA	45,46	SMD 1K0 5% 0W1	31425820
CAPACITORS			
C	1,2,3,5,6,7,8,9,13, 18,27,39	CER SMD 100N 10% 50V	32535920
C	17,20	CER SMD 100N 10% 50V	32535920
C	23,33	ELYT 220U 20% 35V	34510008
C	38,44	ELYT 1000U 20% 35V	34510013
C	43	ELYT 470U 20% 50V	34510007
CA	10	MKT 220N 10% 63V	33127108
CA	11,45,46,47	CER SMD 10N 10% 50V	32535918
CA	12,42	ELYT 10U 20% 63V	34540025
CA	14	CER SMD 1N0 10% 50V	32536203
CA	15	MKT 470N 10% 63V	33127123
CA	16	CER SMD 100P 5% 50V	32125515
CA	19	ELYT 1000U 20% 16V	34540015
CA	21	CER SMD 100P 5% 50V	32125515
CA	22,35	ELYT 100U 20% 25V	34540020
CA	26,32,34,30	ELYT 2U2 20% 63V	34540023
CA	28	ELYT 47U 20% 50V	34540028
CA	29,31	CER SMD 470P 5% 50V	32190013
CA	36,37	ELYT 47U 20% 50V	34540028
CA	40,41	MKT 100N 10% 63V	33127106
TRANSISTORS			
TA	1,10	NPN SMD BC847B 45V	36145312
TA	2	N-FET SMD 2N7002 60V	36380002
TA	3,4,5,6	N-FET SMD 2N7002 60V	36380002
TA	7,8	NPN SMD BC847B 45V	36145312
TA	9	PNP SMD BC857B 45V	36145412
DIODES			
DA	1,5	SMD BAV70 70V 215mA	36561954
DA	2,3	SMD BAV70 70V 215mA	36561954
ZENERS			
DA	4	Z SMD BZX84B 12V 2%	36780008
INTEGRATED CIRCUITS			
ICA	1	AUDIO SMD DSP56004 QFP80	37850029
ICA	2	SRAM SMD 32k GM76C256	37860025
ICA	3	PLL SMD TC9246F	37410015
ICA	4	DAC SMD TC9270F	37880010
ICA	6	SPECI SMD TA2009F	37410016
ICA	7	AUDIO TDA7262	37430008

Item		Description	Order no.
FILTERS			
L	3,4	LINE FILTER 2x5uH	45390004
COILS			
L	2	10UH 10% 230mA	45630002
LA	1	120UH 5% 300mA	45630007
OTHERS			
Q	1,3,4	ROW CONNECTOR 4-PIN	73190604
Q	2	MODULE CONNECTOR 9-PIN	41720002
Q	6,7	SPEAKER CONNECTOR	41910003
SW	1	PUSH-BUTTON SWITCH	41220002
		DPL-WIRE BUNDLE L=130	48899828
		HEATSINK 50mm	83618810
		MODULE HOLDER	86817513
		MODULE SUPPORT	86817516
		MODULE SUPPORT AR600	86817517
		PT-SCREW 2,9x6,5	78648808
		SCREW 3X8	78648807
		WIRE BUNDLE SURROUND	48899826

AV601 Active subwoofer

RESISTORS			
J	5,6,7,10	SMD 0R 5% 0W1	31425802
R	1,7,9,12,24,38,40	SMD 150K 5% 0W1	31425846
R	2,3,6,15,16,17,18, 19,21,37	SMD 33K 5% 0W1	31425840
R	4,5,39	SMD 4K7 5% 0W1	31425824
R	8	SMD 22K 5% 0W1	31425837
R	10	SMD 220K 5% 0W1	31425847
R	13,14	SMD 470R 5% 0W1	31425817
R	22,27	SMD 47R 5% 0W1	31425809
R	23	SMD 220R 5% 0W1	31425815
R	25,28	SMD 1K8 5% 0W1	31425827
R	26,34,36	SMD 1K5 5% 0W1	31425826
R	29,30	SMD 1R0 5% 0W1	31490020
R	31,32	SMD 470K 5% 0W1	31425848
R	33,35	SMD 47K 5% 0W1	31425836
RA	11	SMD 150k 5% 0,125W	31518410
RAV	20	SMD 10K 5% 0W1	31425833
RAV	41	SMD 10R 5% 0W1	31425810
CAPACITORS			
C	1,2,3,4,8,9	CER SMD 47N 10% 50V	32790008
C	5	CER SMD 1N0 10% 50V	32536203
C	6,12	ELYT 100U 20% 25V	34540020
C	7,10,18,19,20	CER SMD 100N 10% 50V	32535920
C	13,15,22,23,26	ELYT 1U0 20% 50V	34540030
C	16,17	ELYT 22U 20% 35V	34540021
C	21	ELYT 10U 20% 63V	34540025
C	24,25	CER SMD 6N8 5% 50V	32790013
C	27	ELYT 1000U 20% 16V	34540015
TRANSISTORS			
T	1,3,4,5	NPN SMD BC847B 45V	36145312
T	2,6	PNP SMD BC857B 45V	36145412
T	7	N-FET SMD 2N7002 60V	36380002
DIODES			
DAV	1,2	1N4148 75V 200mA	36420002
ZENERS			
Z	1	Z SMD BZX84B 12V 2%	36780008

Item		Description	Order no.
INTEGRATED CIRCUITS			
IC	1,2	OPAMP SMD MC33078D	37470007
IC	3	LOGIC SMD 4053B	37715194
IC	4	AUDIO TDA7262	37430008
OTHERS			
X	1	MODULE CONNECTOR 13-PIN	41720003
X	2	CONNECTOR ROW 3-PIN	73186454
		FASTENING SPRING	86817490

CF602 Combfilter module

RESISTORS			
JC	10,12,13	SMD 0R J 0W25	31425601
RC	1	SMD 47K 5% 0W1	31425836
RC	2,24	SMD 100R 5% 0W1	31425852
RC	3,5,7,18	SMD 10K 5% 0W1	31425833
RC	4	SMD 3K3 5% 0W1	31425829
RC	6,16	SMD 220R 5% 0W1	31425815
RC	8,9	SMD 2K2 5% 0W1	31425828
RC	10	SMD 22K 5% 0W1	31425837
RC	11,23	SMD 470R 5% 0W1	31425817
RC	12,15,14	SMD 1K0 5% 0W1	31425820
RC	13	SMD 390R 5% 0W1	31425816
RC	17	SMD 560R 5% 0W1	31425818
RC	19	SMD 820K 5% 0W1	31425885
RC	20	SMD 330R 5% 0W1	31425857
RC	21,25,26	SMD 100K 5% 0W1	31425844
RC	22	SMD 120K 5% 0W1	31425845
CAPACITORS			
CC	1	CER SMD 470P 5% 50V	32190013
CC	3,11	CER SMD 10P 5% 50V	32125506
CC	4	CER SMD 16P 5% 50V	32190029
CC	5	CER SMD 1N0 2% 50V	32190023
CC	6,13,18,19,2,22,26, 28,29,32	CER SMD 100N 10% 50V	32535920
CC	12,17,21,33	ELYT 47U 20% 50V	34540028
CC	23,34,41	ELYT 10U 20% 63V	34540025
CC	24,27	ELYT 4U7 20% 63V	34540024
CC	31	CER SMD 470N 80/20% 50V	32790012
CC	35,36	CER SMD 56P 5% 50V	32125526
CC	38	CER SMD 68P 5% 50V	32125516
TRANSISTORS			
TC	3,7,9	NPN SMD BC847B 45V 100mA	36145312
TC	4,6,8	PNP SMD BC857B 45V 100mA	36145412
TC	5	NPN SMD BF599 25V 25mA	36280003
INTEGRATED CIRCUITS			
IC	1	VIDEO SMD MC44144	37440015
IC	2	IC LOGIC SMD 4053B	37715194
IC	3	VIDEO MC141625	37791115
COILS			
LC	1,2,5,6	15UH 10% 610mA	45630004
LC	3	10UH 10% 230mA	45630002
LC	4	6.8uH K 250mA	45620017
CHRYSTALS			
QC	1	17.734475 MHZ HC49/U C	44213136
OTHERS			
		F-CONNECTOR 13-PIN	41750002

Item		Description	Order no.

DW670 Line compressor

RESISTORS			
JDW	31,32,33,34,35,36,37, 38,39,42,43	SMD 0R 5% 0W1	31425802
RDW	1	FUS V 4R7 5% 0W25	31860002
RDW	2,18	SMD 680R 5% 0W1	31425860
RDW	3,4,41,48	SMD 1K0 5% 0W1	31425820
RDW	5	FUS V 2R2 5% 0W25	31860003
RDW	6,7,10	SMD 47R 5% 0W1	31425809
RDW	8,42	SMD 470R 5% 0W1	31425817
RDW	9,23,24,33,34	SMD 270R 5% 0W1	31425855
RDW	11	SMD 18K 5% 0W1	31425813
RDW	12,29,47,52	SMD 10K 5% 0W1	31425833
RDW	13	SMD 1K2 5% 0W1	31425822
RDW	14,51	SMD 68K 5% 0W1	31425838
RDW	16	SMD 33K 5% 0W1	31425840
RDW	17,36	SMD 820R 5% 0W1	31425819
RDW	19	SMD 220R 5% 0W1	31425815
RDW	20	SMD 150R 5% 0W1	31425812
RDW	21,25	SMD 560R 5% 0W1	31425818
RDW	22,37,44	SMD 2K2 5% 0W1	31425828
RDW	26,46	SMD 100K 5% 0W1	31425844
RDW	28	SMD 3K3 5% 0W1	31425829
RDW	31	SMD 15K 5% 0W1	31425835
RDW	32,38	SMD 39K 5% 0W1	31425841
RDW	39	CARF 1K0 5% 0W25	31660016
RDW	43	SMD 1M8 J 0W25	31426238
RDW	53,49	SMD 47K 5% 0W1	31425836
RDW	54,	SMD 22K 5% 0W1	31425837
RDW	56	CARF 2R2 5% 0W25 FP	31514511
RDW	57	SMD 10R 5% 0W1	31425810
RDW	60,61	CARF 0R22 5% 0W25 FP	31514506
CAPACITORS			
CDW	1,6,9,11,56,61,66	ELYT 22U 20% 35V	34540021
CDW	2,3,7,8,19,26,34,36	CER SMD 10N 10% 50V	32535918
CDW	12,13,14,16,18,41,42, 44,46,53,54	CER SMD 100N 10% 50V	32535920
CDW	17,52	MKT 220N 10% 63V	33127108
CDW	20	CER SMD 120P 5% 50V	32125523
CDW	21,27,28,38,58	ELYT 2U2 20% 63V	34540023
CDW	22,29,31,48	CER SMD 100P 5% 50V	32125515
CDW	23,24	CER SMD 150P 5% 50V	32125511
CDW	32	CER SMD 1N5 10% 50V	32790006
CDW	33,37	CER SMD 330P 5% 50V	32125517
CDW	43,51,59	CER SMD 1N0 5% 50V	32125648
CDW	47	ELYT 100U 20% 25V	34540020
CDW	57	CER SMD 47P 5% 50V	32125508
TRANSISTORS			
TDW	1	NPN BC637 60V 1A	36220003
TDW	2,3,6,7,8,9	NPN SMD BC847B 45V 100mA	36145312
TDW	4	PNP SMD BC857B 45V 100mA	36145412
DIODES			
DDW	2	1N4148 75V 200mA	36420002
DDW	3	SMD BAS16 75V 250mA	36560318
ZENERS			
DZDW	1	Z SMD BZX84C 5V6 5%	36780006
INTEGRATED CIRCUITS			
ICDW	1	VIDEO SAA4981-V1	37870003
ICDW	2	EXPAN SMD PCF8574T	37870012
ICDW	3	VIDEO TDA4566-V2	37651397
ICDW	4	LOGIG SMD 74HC04	37810010
ICDW	5	DEFL TDA9151B-N3	37450001
ICDW	6	LOGIC SMD 4013B	37810012

Item		Description	Order no.
COILS			
LDW	3,4,7	10UH 10% 230mA	45630002
OTHERS			
XDW	1,2	MODULE CONNECTOR 16-PIN	41458102
XDW	4	BLADE CONNECTOR 2.8MM	41930001

FC600 Control module

RESISTORS			
J	1	SMD 0R J 0W25	31425601
J	14,17	SMD 0R 5% 0W1	31425802
R	1,2,10,17	SMD 47K 5% 0W25	31425639
R	3,4	SMD 75R 5% 0W25	31425669
R	7,12	SMD 1K0 J 0W25	31425622
R	8,9	SMD 270R J 0W25	31425613
R	11,16,18	SMD 15K 5% 0W25	31425637
R	13	SMD 330R J 0W25	31425614
R	14	SMD 100K 5% 0W25	31425646
R	15,19,20	SMD 10K 5% 0W25	31425635
R	21,22	CARF 2K2 5% 0W25	31660037
CAPACITORS			
C	1,2	MP/P 100N M 275VAC	33260003
C	5,7	CER SMD 4N7 10% 50V	32790007
C	8,20	ELYT 10U 20% 35V	34540027
C	10,13	CER SMD 390P 5% 50V	32125646
C	11	CER SMD 1N0 10% 50V	32535901
C	14,15	ELYT 100U 20% 25V	34540020
C	16,17,18,19	CER SMD 10N 10% 50V	32535918
C	21,22	CER 15P 5% 50V	32180003
TRANSISTORS			
T	2,4	PNP SMD BC857B 45V 100mA	36145412
T	3	NPN SMD BC847B 45V 100mA	36145312
DIODES			
D	1	SMD BAV70 70V 215mA	36561954
D	2	LED GREEN 5mm	36910005
D	3,4	LED RED 5mm	36910004
INTEGRATED CIRCUITS			
IC	1	IR-RECEIVER	36940001
COILS			
L	1,2	56UH 20% 1.5A	45620009
L	3,4,7,8,9	10UH 10% 230mA	45630002
L	5,6	2.2UH 10% 520mA	45630003
FUSES			
F	1	T3,15A	43751652
COILS			
M	1	MAINS COIL 2x27mH	45390003
OTHERS			
SW	1,2,3,4	TACTILE SWITCH	41150685
SW	1	MAINS SWITCH 250V 4/80A	41210005
A	1	COVER FOR CAM. CONNECTOR	86815350
A	2	MODULE SUPPORT	86815351
F	1	FUSEHOLDER CLIPS	41540001
Q	1	ROW CONNECTOR 2-PIN	73184701
Q	10	CONNECTOR PHONO 3,5mm	41910001
Q	2	WIRE BUNDLE 2-PIN 410mm	48899814
Q	4	WIRE BUNDLE 8-PIN 600mm	48899815

Item		Description	Order no.
Q	5	WIRE BUNDLE 12-PIN 500mm	48899807
Q	6	RCA CONNECTOR 3 IN ROW	41430747
Q	9	S-VHS CONNECTOR	41452244

HH658 CRT module

RESISTORS			
RH	3,12,16	CARF 4K7 5% 0W25 FP	31514522
RH	4,13,17	METOX 39K 5% 1W0	31440007
RH	5,10,15	SMD 330R 5% 0W1	31425857
RH	6,7,8	SMD 680R 5% 0W1	31425860
RH	9,11,14	SMD 1K5 5% 0W1	31425826
RH	18,19,21,22,23,24	CARF 470R 5% 0W25	31660014
RH	20	SMD 470K 5% 0W1	31425848
RH	25	CARF 470K J 0W25	31660060
RH	26	CARF 33K 5% 0W25 FP	31630036
RH	27	CARF 4M7 5% 0W25	31660029
RH	28,33	COMP 1K5 10% 0W5	31594639
RH	29	CARF 8K2 5% 0W25	31660021
RH	31	SMD 22R 5% 0W1	31425849
RH	36	SMD 100K 5% 0W1	31425844
RH	37	SMD 2K2 5% 0W1	31425828
CAPACITORS			
CH	3	CER SMD 22N 20% 50V	32790009
CH	5	CER SMD 68P 5% 50V	32125516
CH	6,11,16	CER SMD 470P 5% 50V	32190013
CH	10,20,26	CER SMD 150P 5% 50V	32125511
CH	15	MKT 100N 10% 250V	33360003
CH	17	ELYT 4U7 20% 250V	34610001
CH	18	ELYT 10U 20% 250V	34610002
CH	19	MKT 22N 10% 250V	33380002
CH	21	MKT 470N 10% 63V	33127123
CH	22	MKT 10N M 2K0V	33460035
CH	23,24,25	CER SMD 330P 5% 50V	32125517
CH	27	ELYT 10U 20% 63V	34540025
TRANSISTORS			
TH	1	NPN BF422 250V 100mA	36125217
DIODES			
DH	1,2	RECT PWR BYV36C 600V	36575452
DH	3,4,5,6,7	SMD LS4148 75V 200mA	36490002
COILS			
LH	1	10UH 10% 230mA	45620003
LH	2,3,4	4.7UH 10% 820mA	45610002
INTEGRATED CIRCUITS			
ICH	1	VIDEO TEA5101A	37661190
OTHERS			
CRT	1	BLADE CONNECTOR 2.8MM	41930001
CRT	2	BLADE CONNECTOR 2.8MM	41930001
UG	2	BLADE CONNECTOR 2.8MM	41930001
		CRT SOCKET METALLO	41554034
		TRANSISTOR HOLDER	86817341
		HEATSINK VIDEO OUTPUT	83618807
		WIRE BUNDLE 10-PIN 400mm	48899811
		WIRE BUNDLE 6-PIN 370mm	48899812
		SVM-MODULE	69134775

Item		Description	Order no.

KK670 Width compens.

RESISTORS			
R	1	SMD 680K 5% 0W1	31490059
R	2	SMD 1M0 5% 0W1	31425801
R	3	SMD 470K 5% 0W1	31425848
R	4	SMD 2K2 5% 0W1	31425828
ZENERS			
D	1	SMD-ZENER 15V 5%	41007142
DIODES			
D	2	SMD BAS16 75V 250mA	36560318
OTHERS			
		F-CONNECTOR 1-PIN	41710019

LL670/671 IF-module

RESISTORS			
RL	1,11	SMD 220R 5% 0W1	31425815
RL	2	SMD 47K 5% 0W1	31425836
RL	3	SMD 2K2 5% 0W1	31425828
RL	4,28,30	SMD 1K0 5% 0W1	31425820
RL	6 (LL670)	CARF 10R 5% 0W25 FP	31514513
RL	7 (LL670)	SMD 100R 5% 0W1	31425852
RL	8 (LL671)	SMD 1K8 5% 0W1	31425827
RL	9 (LL671)	SMD 5K6 5% 0W1	31425825
RL	12	SMD 100K 5% 0W1	31425844
RL	14,25	SMD 68R 5% 0W1	31425876
RL	15	SMD 3M3 5% 0W1	31425884
RL	16 (LL671)	SMD 22K 5% 0W1	31425837
RL	16,29 (LL670)	SMD 22K 5% 0W1	31425837
RL	17	CARF 6K8 5% 0W25 FP	31630029
RL	19	CARF 470R 5% 0W25	31660014
RL	26	SMD 270R 5% 0W1	31425855
RL	27 (LL671)	CARF 330R 5% 0W25 FP	31514524
CAPACITORS			
CL	1,2,6,15,16	ELYT 1U0 20% 63V	34540022
CL	3,8,17,18	CER SMD 1N0 10% 50V	32536203
CL	4,14	CER SMD 10N 10% 50V	32535918
CL	5,7	ELYT 10U 20% 63V	34540025
CL	9	CER SMD 22N 20% 50V	32790009
CL	10	CER SMD 47P 5% 50V	32125508
CL	12,20 (LL671)	CER SMD 100N 10% 50V	32535920
CL	13 (LL671)	CER SMD 3P3 5% 50V	32190011
CL	19	ELYT 2U2 20% 63V	34540023
CL	20 (LL670)	CER SMD 100N 10% 50V	32535920
CL	21	ELYT 22U 20% 35V	34540021
TRANSISTORS			
TL	2,6,9 (LL671)	NPN SMD BC847B 45V 100mA	36145312
TL	2,6,9,10 (LL670)	NPN SMD BC847B 45V 100mA	36145312
TL	7,8	PNP SMD BC857B 45V 100mA	36145412
TL	3 (LL671)	NPN SMD BF599 25V 25mA	36280003
INTEGRATED CIRCUITS			
ICL	1,2	VIDEO TDA6050-5/D5	37440005
COILS			
LL	1	ADJ 135nH	45530017
LL	2 (LL671)	1.5UH 10% 570mA	45630001
LL	3	0.68UH 10% 530mA	45630012
LL	4	10UH 10% 230mA	45620003
LL	5	22UH 10% 170mA	45620005
LL	6	ADJ 0,26UH	45530003
FILTERS			
ZDL	6 (LL670)	CER TPS 5.5 MB	45558410
ZDL	6 (LL671)	CER TPS 6.0 MB	45558411
ZL	4 (LL670)	SAW FILTER OFW G3264	45740022
ZL	4 (LL671)	SAW FILTER OFW G3270	45740020
OTHERS			
		F-CONNECTOR 7-PIN	41750001
		INTEFERENCE SHIELD	86817482

LL675 IF-module

RESISTORS			
J	9,10,15,6	SMD 0R 5% 0W1	31425802
RL	1	SMD 330R 5% 0W1	31425857
RL	2	CARF 4K7 5% 0W25	31660031
RL	3,53,59,58	SMD 47K 5% 0W1	31425836
RL	4	SMD 2K2 5% 0W1	31425828
RL	11,37	SMD 100K 5% 0W1	31425844
RL	13,36	SMD 220R 5% 0W1	31425815
RL	14	SMD 680R 5% 0W1	31425860
RL	17,38,43,44,52	SMD 22K 5% 0W1	31425837
RL	18	CARF 47K 5% 0W25	31660026
RL	19,46,55,56,57,61	SMD 10K 5% 0W1	31425833
RL	21,22,26,49,64	SMD 1K0 5% 0W1	31425820
RL	23	SMD 5K6 5% 0W1	31425825
RL	24	SMD 100R 5% 0W1	31425852
RL	27,39,45	SMD 6K8 5% 0W1	31425831
RL	32	CARF 470R 5% 0W25	31660014
RL	33	SMD 33R 5% 0W1	31425808
RL	34	SMD 68R 5% 0W1	31425876
RL	42	SMD 3M3 5% 0W1	31425884
RL	48	SMD 120R 5% 0W1	31425853
RL	51	SMD 68K 5% 0W1	31425838
RL	54	SMD 3K3 5% 0W1	31425829
RL	65	SMD 1K5 5% 0W1	31425826
CAPACITORS			
CL	1	CER SMD 47P 5% 50V	32125508
CL	2,13,14,15,16,21,33	ELYT 1U0 20% 63V	34540022
CL	3,6,9,11,12,18,19, 27,32,38	CER SMD 1N0 10% 50V	32536203
CL	4,22,26,31,43	CER SMD 10N 10% 50V	32535918
CL	7,8,42	ELYT 4U7 20% 63V	34540024
CL	17,28	ELYT 10U 20% 63V	34540025
CL	23	CER SMD 3P3 5% 50V	32190011
CL	34,37	CER SMD 22P 5% 50V	32125521
CL	35	ELYT 2U2 20% 63V	34540023
CL	36	CER SMD 12P 5% 50V	32124707
CL	39	MKT 220N 10% 63V	33127108
CL	41	CER SMD 100N 10% 50V	32535920
CL	44	ELYT 100U 20% 16V	34540031
CL	46	CER SMD 68P 5% 50V	32125516
TRANSISTORS			
TL	1,2,3,5,6,9,11,13, 14,15,16,17	NPN SMD BC847B 45V 100mA	36145312
TL	4	NPN SMD BF599 25V 25mA	36280003
TL	7,8,12	PNP SMD BC857B 45V 100mA	36145412
DIODES			
DL	2,8	SMD LS4148 75V 200mA	36490002
DL	6,10	1N4148 75V 200mA	36420002
DL	7,9,11	SMD BA592 35V 100mA	36490004

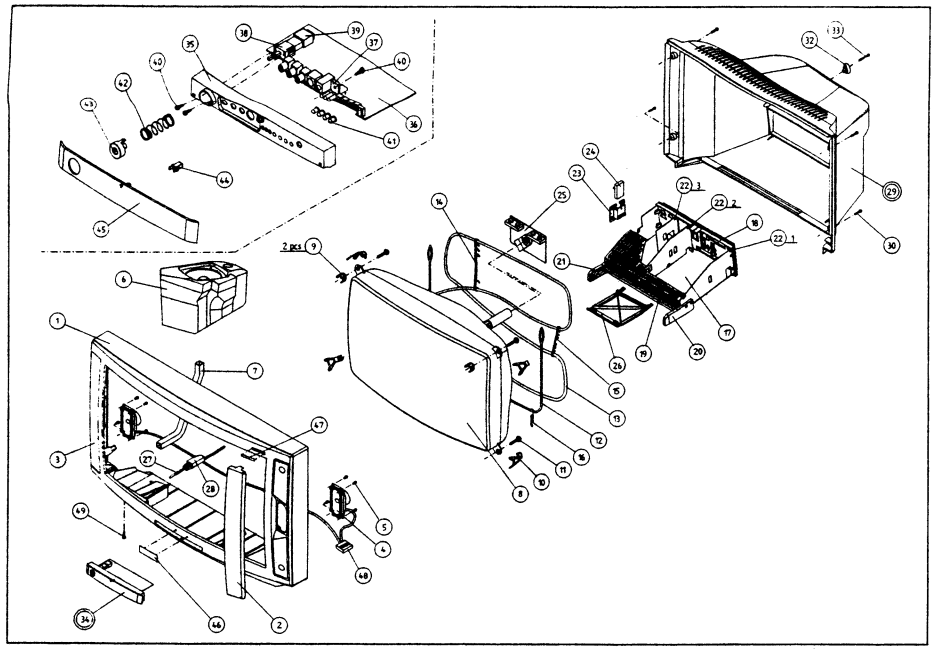
Item		Description	Order no.
ICL	1	VIDEO TDA6050-5/D5	37440005
ICL	2	VIDEO TDA6050-5/D5	37440032
ICL	3	AUDIO SMD TDA9830	37430009
COILS			
LL	1	ADJ 135nH	45530017
LL	2	22UH 10% 170mA	45620005
LL	3	820nH K 500mA	45620019
LL	4	470nH 20% 750mA	45630017
LL	6	ADJ 0,23UH	45530006
LL	7	6.8uH K 550mA	45620016
LL	9	3.9uH 10% 400mA	45434170
FILTERS			
ZL	1	SAW FILTER K9260 M	45740008
ZL	2	SAW FILTER L9453	45740010
ZL	3	SAW FILTER K3953	45740017
ZL	4	SAW FILTER OFW G3264	45740022
ZL	6	FIL CER TPS 6.0 MB	45558411
ZL	7	FIL CER TPS 6.5 MB	45558412
ZL	8	FIL CER TPS 5.5 MB	45558410
OTHERS			
X	1,2	F-CONNECTOR 7-PIN	41750001
		INTEFERENCE SHIELD	86817482

TA601 AUX-module

RESISTORS			
RTA	1	FUS P SMD 2R2 J 0W125	31810001
RTA	3,4,5,15,16,22	SMD 33K 5% 0W1	31425840
RTA	6,7,24,31	SMD 100K 5% 0W1	31425844
RTA	9,10	SMD 100R 5% 0W1	31425852
RTA	8,11	SMD 180K 5% 0W1	31490012
RTA	12,23,25,33,34	SMD 10K 5% 0W1	31425833
RTA	17,18	SMD 1M0 5% 0W1	31425801
RTA	19,20	SMD 220K 5% 0W1	31425847
RTA	28	SMD 390R 5% 0W1	31425816
RTA	30	SMD 120K 5% 0W1	31425845
RTA	29	SMD 464R 1% 0W1	31490044
RTA	27	SMD 12K1 1% 0W1	31490051
RTA	26	SMD 10K0 1% 0W1	31490057
RTA	32	SMD 680K 5% 0W1	31490059
CAPACITORS			
CTA	1,6,11,13,16,19	CER SMD 100N K 25V	32790018
CTA	2	ELYT 47U M 16V	34540045
CTA	3,4,15,17,18	ELYT 22U 20% 16V	34540009
CTA	5,12	ELYT 100U 20% 16V	34540031
CTA	7,8	ELYT 1U0 20% 50V	34540030
CTA	9,10	CER SMD 10N 20% 50V	32536212
CTA	14	CER SMD 470P 5% 50V	32190013
TRANSISTORS			
TTA	1,2,8,9	N-FET SMD 2N7002 60V 180mA	36380002
TTA	3,4,6,7	NPN SMD BC847B 45V 100mA	36145312
TTA	5	PNP SMD BC857B 45V 100mA	36145412
DIODES			
TDA	1,2,3	SMD LS4148 75V 200mA	36490002
INTEGRATED CIRCUITS			
ICTA	1	OPAMP SMD TL082CD	37470003
ICTA	2	SMD-IC LM358	37717051
COILS			
LTA	1,2,3,4	10UH 10% 230mA	45620003
OTHERS			
XA	1	CONNECTOR HEADER 6-PIN	41710002
XT	7	CONNECTOR RCA RED	41920001
XT	8	CONNECTOR RCA WHITE	41920002

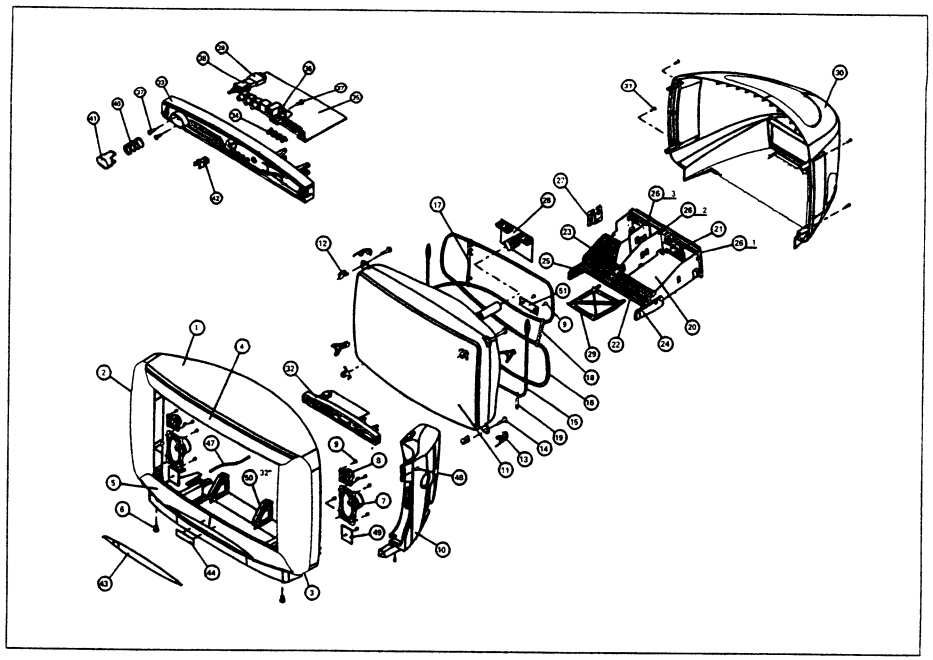
VM602 SVM-module

RESISTORS			
RVM	1	SMD 3K9 5% 0W1	31425830
RVM	2,7	SMD 680R 5% 0W1	31425860
RVM	3	SMD 10K 5% 0W1	31425833
RVM	4,13	SMD 1K0 5% 0W1	31425820
RVM	6,23,31	CARF 100R 5% 0W25 FP	31514516
RVM	8	SMD 100R 5% 0W1	31425852
RVM	9,14	SMD 820R 5% 0W1	31425819
RVM	11,12	SMD 470R 5% 0W1	31425817
RVM	16,17	SMD 47R 5% 0W1	31425809
RVM	18,21	SMD 6K8 5% 0W1	31425831
RVM	19	SMD 560R 5% 0W1	31425818
RVM	22	CARF 330R 5% 0W25 FP	31514524
RVM	24	CARF 3R3 5% 0W25 FP	31514515
RVM	26,28	CARF 10R 5% 0W25 FP	31514513
RVM	27,29	SMD 5K6 5% 0W1	31425825
RVM	32	CARF 3R3 5% 0W25 FP	31514515
RVM	33	METF 100R F 0W60	31450016
CAPACITORS			
CVM	1	CER SMD 22P 5% 50V	32125521
CVM	2	CER SMD 68P 5% 50V	32125516
CVM	3,6,12,13,14,16,17	CER SMD 100N 10% 50V	32535920
CVM	4	CER SMD 10N 10% 50V	32535918
CVM	7,8	CER SMD 22N 10% 50V	32535914
CVM	9	ELYT 10U 20% 63V	34540025
CVM	11	ELYT 47U 20% 50V	34540028
CVM	18	CER SMD 2N2 10% 50V	32535904
TRANSISTORS			
TVM	1,6	NPN SMD BF599 25V 25mA	36280003
TVM	2,3,4,7	PNP SMD BF824 30V 25mA	36120751
TVM	8	PNP BC638 60V 1A	36220004
ICVM	9	NPN BC637 60V 1A	36220003
OTHERS			
		F-CONNECTOR 4-PIN	41750003
		WIRE BUNDLE 3-PIN 150mm	48899821



Item	Description	Order no.
01	Cabinet 28 W1 Graphite Grey	61319104
02	Grill right Graphite Grey	64169975
03	Grill left Graphite Grey	64169975
04	Speaker LPB511/14/90SC	43119546
05	Pt-screw KB 40X10	61572699
06	Sub.woofer box SCE070	43119590
07	Box fastener 28 B1	86817416
08	Picture tube W66EDX013X101 SVM	43629032
09	Picture tube washer	86817458
10	Degaussing coil holder	61572685
11	Picture tube pt-screw 7X40	78648804
12	Grounding braid 28	61418809
13	Degaussing coil 28 16:9 Orega	45820007
	Compensation coil 32	45820005
14	Degaussing coil fastener	86814593
15	Degaussing coil holder	86815358
16	Grounding spring	73584891
17	Main board 50HZ 16:9 AWRBHL	69136722
	Main board 50HZ 16:9 AWRAHL UK	69136723
18	Rear plate 3 (AR602/——)	86817502
19	Touch protection 100/50HZ	86817463
20	Chassis holder left 100/50Hz	86815359
21	Chassis holder right 100Hz	86815360
22	Connecting piece 100/50Hz	86817349
23	Connecting plate 1/2+4 heatsinks	86817462
24	Focus pot 144M	31250002
25	Crt module 50Hz/SVM HH654	69134739
26	Protection for main board	86815353
27	Mains cable 2,25m	41314336
	UK Mains cable 2,25m	41314380
28	Strain relief	86817343
29	Back cover W1 28 16/9	61355227
30	Pt-screw KB 40X20	61572700
32	Rubber pad	61582152
33	Pt-screw KB 40X40	78648803
34	Control unit W1 SY680	58838826
35	Control unit frame W1	86817414

Item	Description	Order no.
36	Control module FC600	69134641
37	Module support	86815351
38	Mains switch	41210005
39	Touch guard	84480160
40	Pt-screw KB30X8	61570310
41	Button	63184693
42	Spring	73525407
43	Mains button	6318471
44	Lock F/V-2	86815361
45	Flap	86817415
46	Badge Nokia 51mm	84700120
47	Badge Nokia Technology	84700140
48	Loudspeaker wire bundle	41314384
49	Screw AB3,5X9,5	61572697
	Add. touch protection 100Hz	86815352
	Lead lock	61572414
	Active subwoofer AV601	69136757
	Combfilter module CF602	69134733
	Line compressor module DW670	69134797
	If-module B/G,DK,I,L,L' LL675	58258838
	Remote control Nokia Grey RCN600	56522331
	SVM-module VM602	69134775
	Wire bundle PK/K	41314386
	Wire bundle PK/Z VI/TOS	41314387
	Antenna cable 2 m with ferrite	47780002

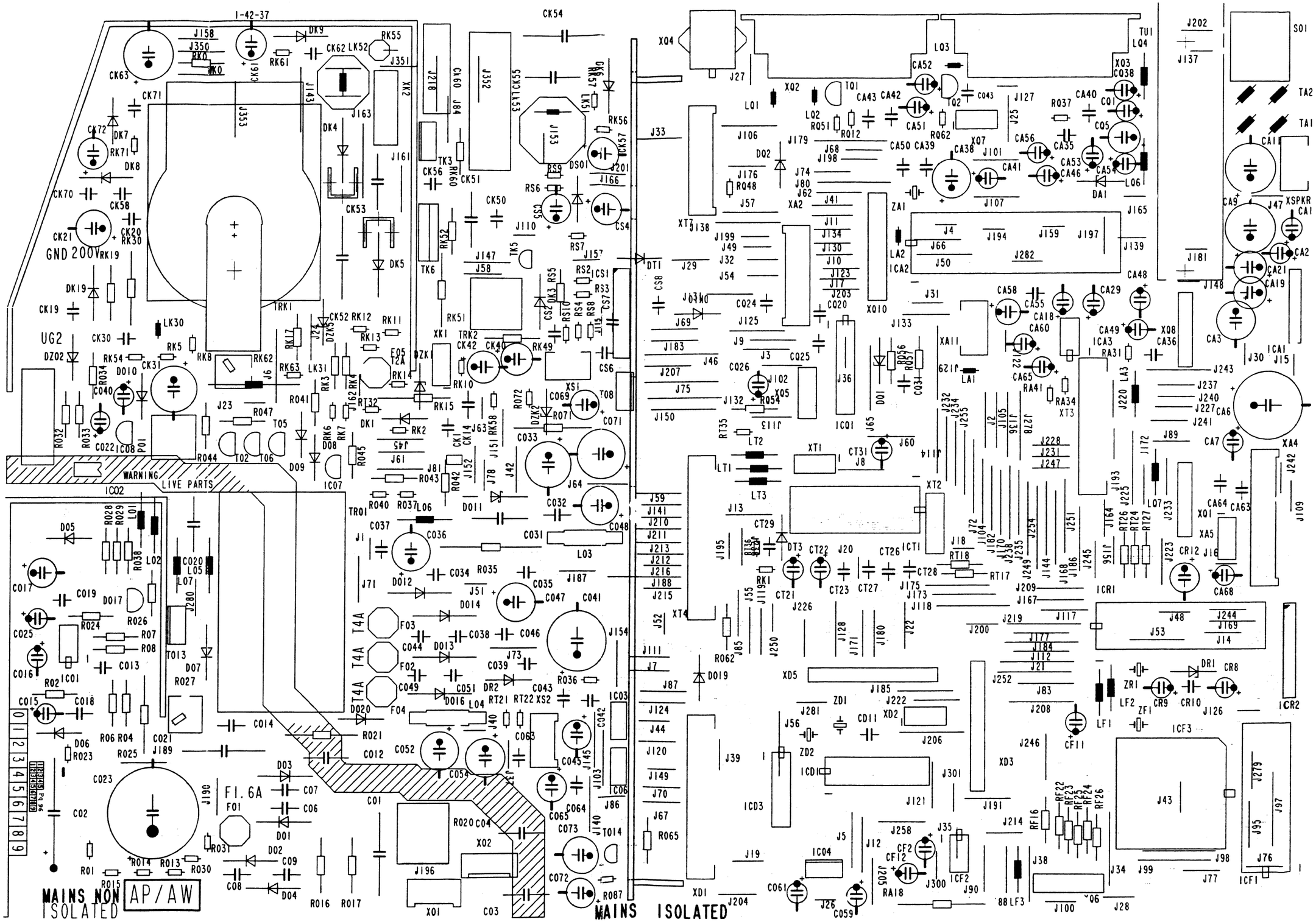


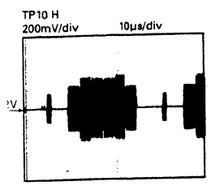
Item	Description	Order no.
01	Cabinet 24F7 M.Dbl/Me.Black	61319096
02	Grill left	64169966
03	Grill right	64169967
04	Trim upper Metal black	86817381
05	Trim lower Metal black	86817384
06	Foot pad	86815383
07	Speaker LPB713/19/65	43119591
08	Tweter LPKH50/10/100SK	43119567
09	Screw KB40x10	61572699
10	Woofer box SCE063	43119593
11	Picture tube Vid W56EGV023X115 VG	43642402
12	Picture tube holder	84480810
13	Degaussing coil holder	61572685
14	Pt-screw K70X30	78640221
15	Grounding wire 24 16/9	41314374
16	Degaussing coil 25 Orega	45168819
17	Demacoil holder long	86815357
18	Degaussing coil holder	86815358
19	Grounding spring	73584891
20	Main board 50HZ 16:9 24 AWDARB (7579)	58631216
20	Main board 50HZ 16:9 24 AWEARB (6866)	58631217
20	Main board 50HZ 16:9 24 AWRARB (7447)	58631218
20	Main board 50HZ 16:9 24 AWRFRL (7145)	58631213
21	Rear plate 3 7145	86817502
21	Rear plate 4 6866,7579,7447	86817461
22	Touch protection 100/50HZ	86817463
23	Add. touch protection 100Hz	86815352
24	Chassis holder left 100/50Hz	86815359
25	Chassis holder right 100Hz	86815360
26	Connecting piece 100/50Hz	86817349
27	Connecting plate 1/2+4 heatsinks	86817462
28	Crt module 50Hz/SVM/ 24VID HH658	58631214
29	Protection for main board	86815353
30	Back cover F7 24 Mat.Digi Black	61355221
31	Pt-screw KB 40X20	61572700
32	Control unit F1 SY650	58838824
33	Control unit frame F1	86815382
34	Button	63184693

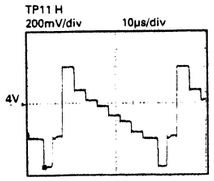
Item	Description	Order no.
35	Control module FC600	69134641
36	Module support	86815351
37	Pt-screw KB30X8	61570310
38	Mains switch	41210005
39	Touch guard	84480160
40	Spring	73525407
41	Mains button F1	63184711
42	Lock F/V-2	86815361
43	Flap DPL 8	61361374
44	Badge Nokia 51mm	84700120
47	Mains cable 2,25m	41314336
47	Mains cable 2,25m UK (7579)	41314380
48	Screw 4x12 (7145)	61572470
49	Crossover network F2 AJ603	69134784
	Surround module AR602	69134783
	Active subwoofer AV601	69136757
	Combfilter module CF602	69134733
	Line compressor module DW670	69134797
	Width compens. module KK670	58631215
	If-module B/G PAL+ LL670	58258837
	If-module I UK PAL+ LL671	58631219
	If-module B/G,DK,I,L,L' LL675	58258838
	Remote control Nokia RCN610	56522347
	DPL box rear Nokia Mat Digi Black SCE080	43119594
	Aux-module TA601 (6866,7579,7447)	69134782
	SVM-module VM602	69134775
	Cable ass 2-p 800cm speaker (7145)	47580038
	Cable ass 2-p 800cm speaker (7145)	47580039
	Ant cable ass 2.0m with ferrite	47780002
	Wire bundle PK/K	41314386
	Wire bundle PK/Z VI/TOS	41314387
	Loudspeaker wire bundle	41314384
	SVM-wire bundle	48899829

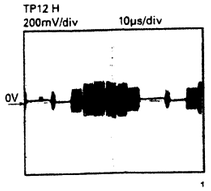
FEATURE STEREO
AW-CHASSIS

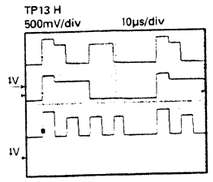
6611 72 31

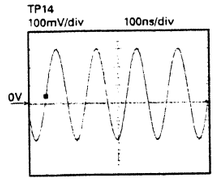

GND 200V
UG2
WARNING
LIVE PARTS
MAINS NON ISOLATED
AP/AW
FI. 6A
MAINS ISOLATED
T4A
T4A
T4A
1-42-37

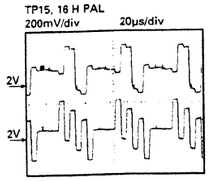


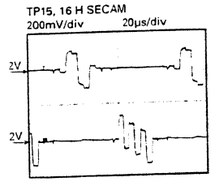


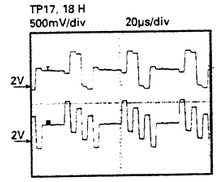


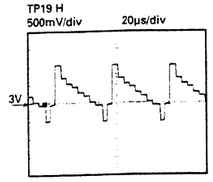


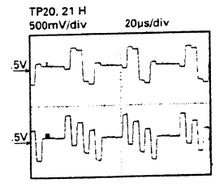


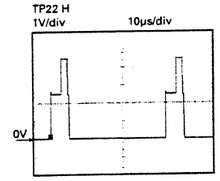


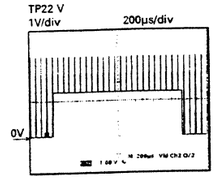


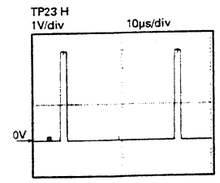


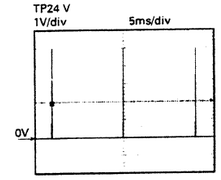


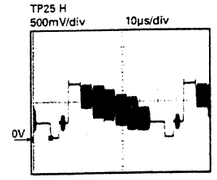


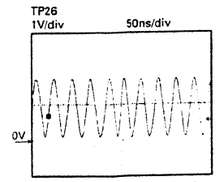


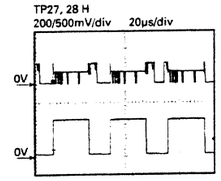


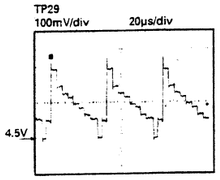


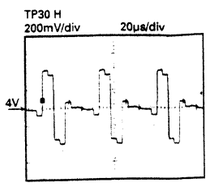


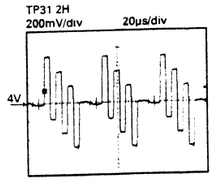


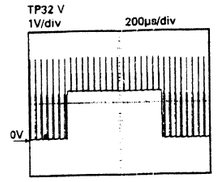


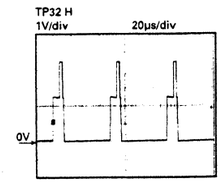


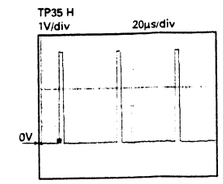


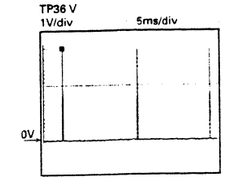


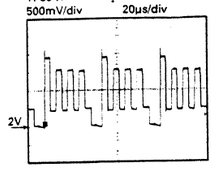


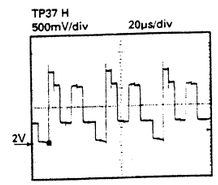


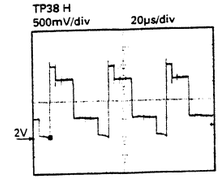


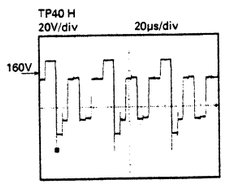


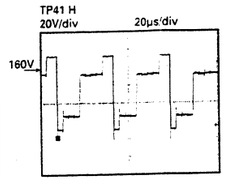


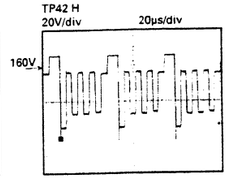


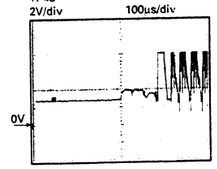


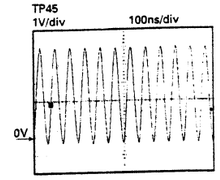


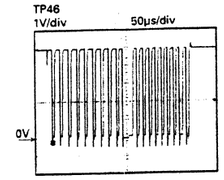


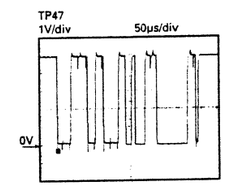


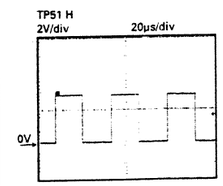


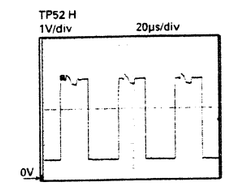


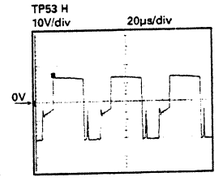


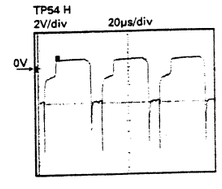


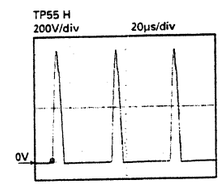


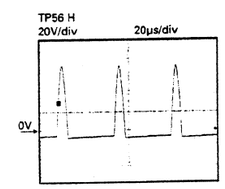


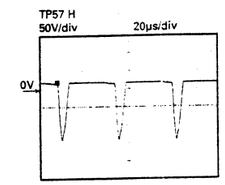


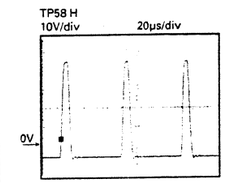


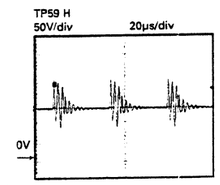


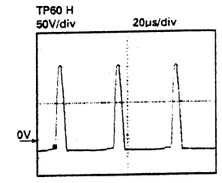


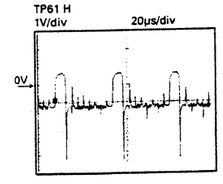


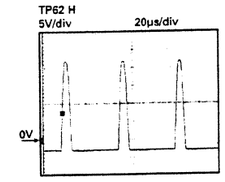


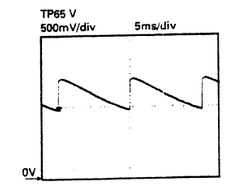


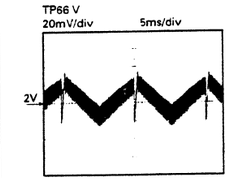


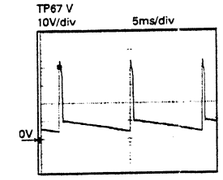


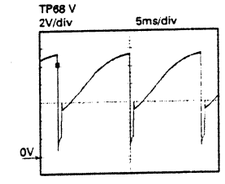


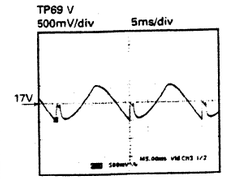


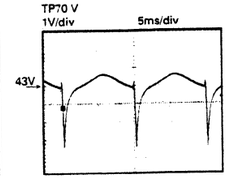


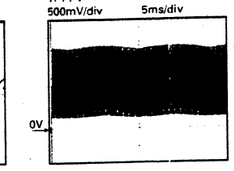


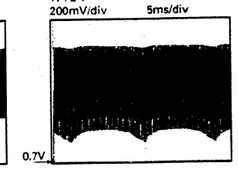


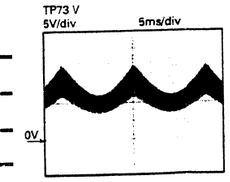


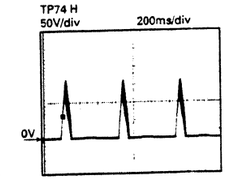


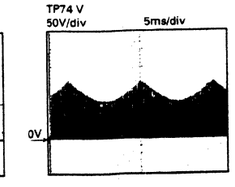


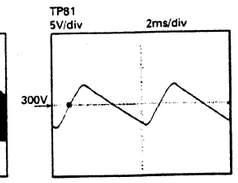


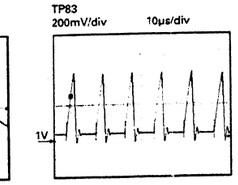


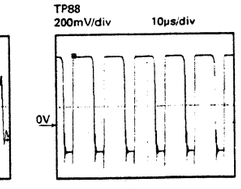


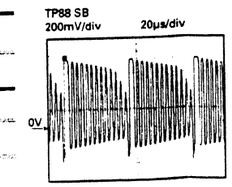


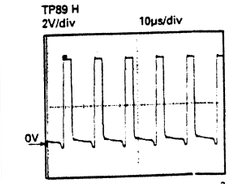


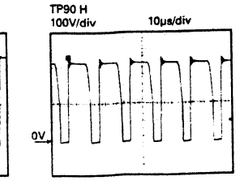


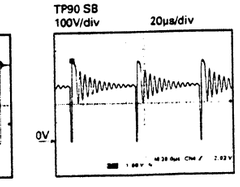


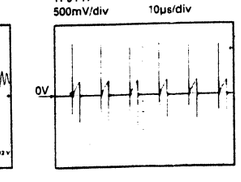


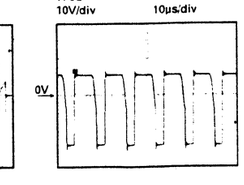


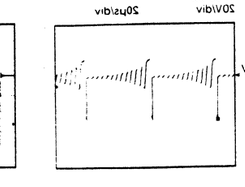


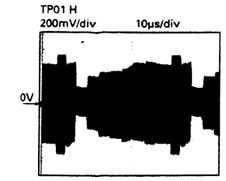


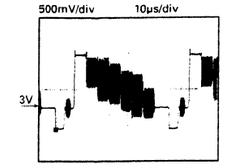


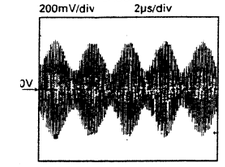


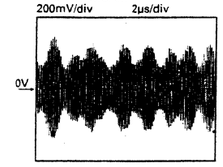


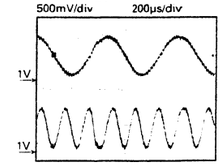


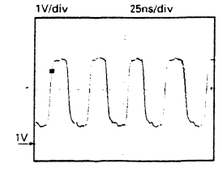


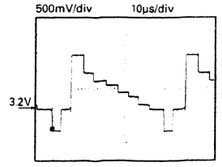


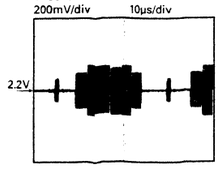


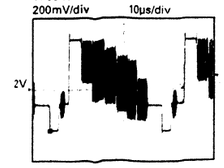




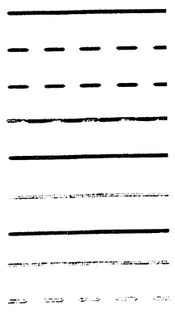








Picture IF and 1. sound IF signals
Video signal (CVBS)
Chroma signal
2. sound IF signal
Audio signal (mono/sound 1)
Audio signal (R/sound 2)
Colour difference and RGB signals
Hor. deflection signal
Vert. deflection signal
E-W raster correction signal



CHASSIS
FW-SERIE
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B/G LL670 UK LL671

IF MODULE
X2-7 MODULO MEDIA FREQ.

TUNER
SINTONIZZATORE

AR602

AV600
ACTIVE SUBWOOFER
SUBWOOFER ATTIVO

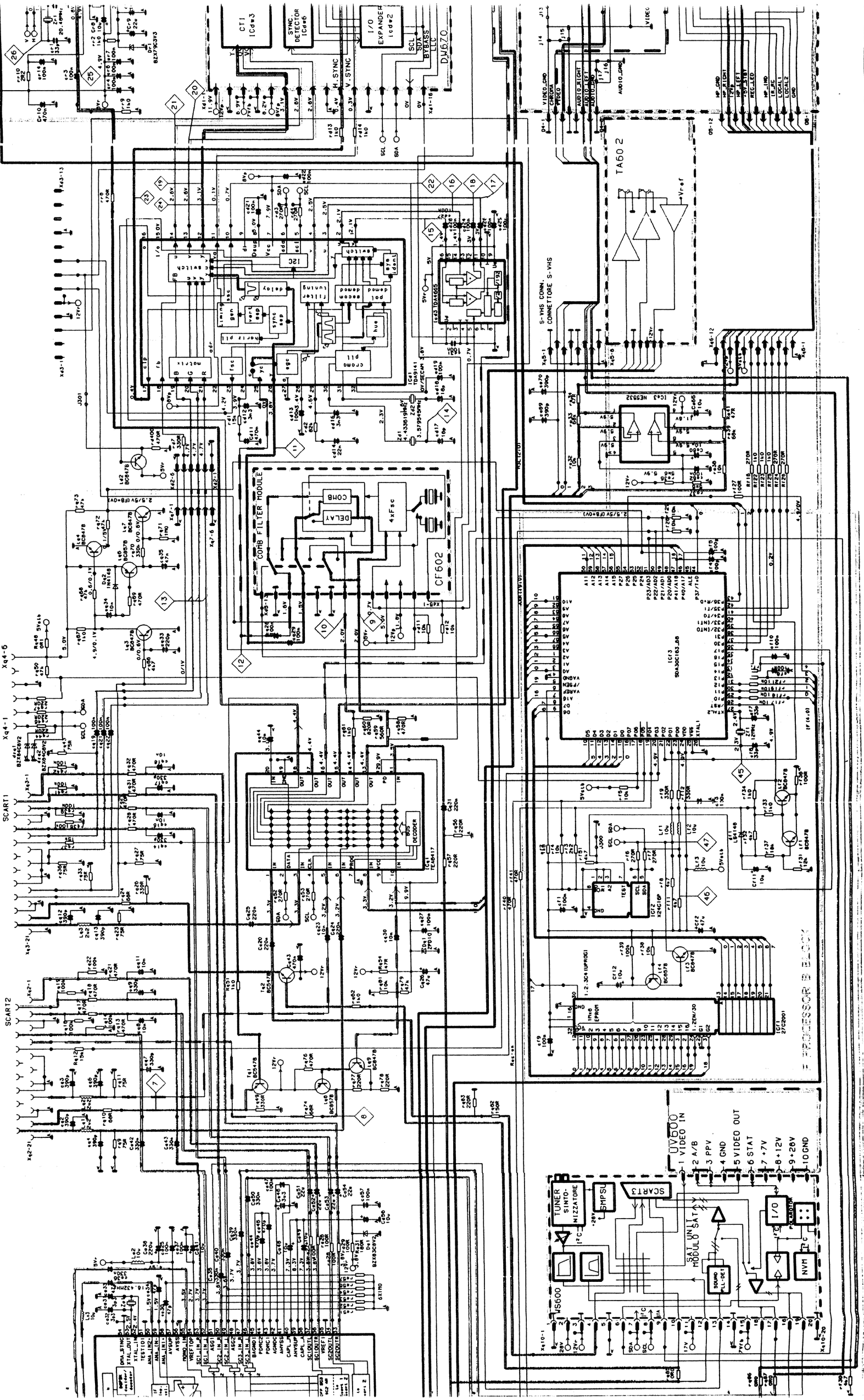
SURR. SP.
MODULO SURROUND

MAINS ISOLATED
PARTE ISOLATA DALLE RETE

MAINS NON ISOLATED
PARTE NON ISOLATA DALLE RETE

DEM. COILS
BOBINE DI SMAGNETIZ

( ) = ST.BY MODE


CTI
I/O EXPANDER
SYNC. DETECTOR
DW5670
TA60 2
S-VHS CONN.
CONNETTORE S-VHS
COMB FILTER MODULE
CF602
PROCESSOR BLOCK
SCART1
SCART2
TUNER SINTONIZZATORE
SMPSU
SCART3
SAT UNI MODULO SAT
UV5600
1 VIDEO IN
2 A/B
3 PPV
4 GND
5 VIDEO OUT
6 STAT
7 +7V
8 +12V
9 +26V
10 GND

	V128	Te24
	EDX	V56LCZ
	013=001	693=01
	AP=+H	Ap=+K
	PW-673	PW-674
Rk3	68k	150k
Rk15	1R2 0.5W	3R0 0.5W
Rk16	4R7	-
Rk10	-	470R
rs1	1k8	1k8
Rs2	1R2	0R82
Rs3	1R2	0R82
Rs8	470R	470R
Ck52	9n1	10n
Ck54	240n	180n
TRk1	Elder	Elder
TRs1	FH3602B	FH3602B
dzk4	BZX84C9V1	BZX84C9V1
Lk52	5920903700	5920903700
CRT-Base	HH654	HH654
rk44	100k	100k
U3	14V	14V